Великая Отечественная: Неизвестная война

Новая хронология катастрофы 1941

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Abstract

A new book by a leading military historian. Continuation of the bestseller "On peacefully sleeping airfields ...". Detailed, day by day, reconstruction of the combat operations of Soviet aviation in the first weeks of the war. NEW CHRONOLOGY OF THE CATASTROPHE OF 1941.

Having discovered and introduced into scientific circulation a huge - thousands of pages! - the volume of primary documents, having analyzed them from the position of a scrupulous historian-researcher and a professional aviation specialist, Mark Solonin finally and irrevocably destroys the "house of cards" of traditional historiography, leaving no stone unturned from the propaganda myths about the "Stalin's falcons" and revealing the true reasons for the monstrous defeat Soviet Air Force.

Preface
THE ALL TRUTH

“In an effort to destroy the Soviet air force and from the first days of the war to seize air supremacy, the German command attracted large forces of its aviation to strike at airfields. During the first day of the war, enemy bombers made massive raids on 66 airfields in the border districts. The airfields on which Soviet fighters of new designs were based were mainly attacked. As a result of these strikes and tense air battles, the losses of our aviation by noon on June 22 amounted to about 1200 aircraft (including over 800 destroyed on the ground).[1]

66 airfields, 1200 aircraft, including 800 destroyed on the ground. After this trinomial was fixed in the fundamental for Soviet historians treatise - the six-volume "History of the Great Patriotic War", published in 1961 by a team of authors of the Institute of Marxism-Leninism under the Central Committee of the CPSU, further study of the issue was reduced to only minimal verbal variations (however , it should be noted that there was also some pluralism of opinions in time: 1200 is “by noon” or still for the whole day of June 22, 1941). Collective work "Soviet Air Forces in

Great Patriotic War". On page 29 we read:

“On June 22, over 1,000 German bombers repeatedly raided 66 of our airfields, on which the main aviation forces of the western border districts were based. First of all, those airfields were attacked, which housed aviation regiments armed with new types of aircraft ... As a result of sudden massive attacks on our airfields and fierce air battles, the air forces of the western districts on the first day of the war lost about 1200 aircraft, including 800 were destroyed at airfields.”[2]

Air Marshal, Hero of the Soviet Union G.V. Zimin, military historical study "Tactics in combat examples":

“On June 22, 1941, large groups of fascist bombers attacked 66 of our airfields, on which the main aviation forces of the western border districts were based. First of all, airfields were subjected to air strikes, on which aviation regiments were based, armed with aircraft of new designs ... As a result of attacks on airfields and in fierce air battles, the enemy managed to destroy up to 1,200 aircraft, including 800 at airfields. [3] Major General of Aviation M.N. Kozhevnikov, "Command and Headquarters of the Air Force of the Soviet Army in the Great Patriotic War":

“At dawn on June 22, 1941, fascist German aviation subjected our airfields, railway junctions, naval bases, groupings of troops and cities to massive raids ... The Hitlerite command threw up to 50% of the aviation forces concentrated at our borders to destroy Soviet aviation. 66 airfields were subjected to air raids ... On the first day of the war, the Soviet Air Force lost about 1,200 aircraft, 800 of them at the airfields. ”[4] Admiral Kuznetsov commanded the fleet, and on June 22, 1941 he was in Moscow.

But he was also able to thoroughly deal with this issue: “Now it is known that by midnight (like this, accurate to the hour. - M.S.) on June 22, Soviet aviation lost 1200 aircraft, of which 800 were destroyed on the ground.”[5] Air Marshal, twice Hero of the Soviet Union, outstanding fighter pilot E.Ya. Savitsky in the first

days of the war served in the military in the Far East, but he, in his book of memoirs, writes without a shadow of a doubt: “They will later find an alarm clock in the Brest Fortress. It rang at four in the morning on June 22, and its arrows stopped forever. Stopped that day - some on the runway, and some right in the parking lot - 800 of our combat vehicles. Fighters, attack aircraft, bombers - stopped without a fight, never taking off ... And in total we lost 1,200 aircraft in the first hours of the war ! Alexander Werth (during the war - correspondent

The Sunday Times and the BBC in Moscow) wrote a hefty (664 pages) book titled Russia in the War 1941-1945. As stated in the annotation to the modern Russian edition, "the book opened the eyes of Western readers to the true events that took place on the Eastern Front and in Russia." Opened. Since then, every Western educated person knows that "the main forces of Soviet aviation were destroyed in the very first days of the war."[7] Of course, "eye openers" met in their native spaces. So, the notorious A.M. Nekrich had the imprudence to complete his book “1941. June 22” (which contained a very sharp criticism of Stalin by traditionally sparing Soviet standards) after the removal of N.S. Khrushchev, just at the moment of the beginning of "re-Stalinization". The book was banned, the author was offered to move to the West, where he was proclaimed an outstanding historian. To this day, Nekrich's book, which tells how stupid Stalin forbade "to prepare for the defense of the country", is considered in the West the "gold standard" in the study of the history of the USSR. What new did Nekrich tell us about June 22, 1941? And here's what:

“German aviation began bombing Soviet airfields at dawn on June 22. 66 airfields in the border districts were bombed. By noon (at Admiral Kuznetsov, as you remember, it was "midnight." - M.S.) on June 22, Soviet aviation lost 1,200 aircraft, of which 800 were destroyed on the ground.

Unconstrained by the framework of external censorship (it was much more difficult to free from the clutches of internal "self-censorship"), the study of the events of the history of World War II became possible only in the era of Gorbachev's "glasnost". At the very end of "perestroika", under the auspices of the then "General Staff of the Joint Armed Forces of the CIS" in early 1992, a collective monograph of Russian military historians was published under the title "1941 - Lessons and Conclusions." This was probably the first attempt at a serious comprehensive study of the tragic events of 1941. The work contained a lot of completely “sensational” (again, by the standards of that time) documents and facts and, on the whole, has not lost its scientific significance to this day. But on the issue of "66, 1200, including 800", the authors of the monograph remained unshakable:

“At dawn on June 22, 1941, fascist Germany attacked the Soviet Union without declaring war ... German aviation brought down fierce blows on troops, command posts, airfields located in the border zone, ports, thousands of fascist railway junctions ... Over 1 bombers were strikes 66 of our airfields. On the first day of subjected to repeated the war, Soviet aviation lost about 1,200 aircraft, of which 800 were destroyed at the airfields.”[9]

Another 16 years have passed - a considerable period, during which time the screaming lump of living flesh turns into an adult young man (or a slender girl). The Berlin Wall collapsed, the Warsaw Pact disappeared into oblivion, the “unbreakable union” fell apart into 15 fragments, ideals, idols, flags, anthems, governments, presidents changed with dizzying speed in the expanses of the former USSR, and once and for all the memorized mantra about “destroyed on earth aviation ”everything sounds without ceasing in hundreds of books and thousands of newspaper articles. And now, in 2008, Moscow State University. Lomonosov publishes the textbook "History of Russia", having learned which students must rap out: "For the first days of the you, at least not in the "first hours" - M.S.) right on the airfields war (thank [10] And a significant part of Soviet aviation was destroyed ". Chief Military Historian, President of the Academy of Military Sciences, Academician of the Russian Academy of Natural Sciences, Corresponding Member of the Academy of Sciences of the Russian Federation, Doctor of Military Sciences, Doctor of Historical Sciences, Professor, former Deputy Chief of the General Staff of the Soviet Army for Research, General of the Army M.A. Gareev in 2010, in another article on the next sad anniversary of the start of the war, minted: “The Soviet Air Force found itself in a difficult situation. Aviation lost most of the aircraft at the airfields ... In total, Soviet aviation lost 1200 aircraft on the first day of the war [11]”[12] [13]).

1 suggested that previous books (notorious “first annihilating strike on Soviet airfields” is a myth that “lives by its own laws, not only not needing any documentary confirmation, but also not weakening in the least from of the flow of new facts that have become available to everyone since the beginning of the 90s. I even had the imprudence to attribute the authorship of this myth

Soviet party "historians" (the myth of the destruction of Soviet aviation at "peacefully sleeping airfields" was carefully fashioned by communist propagandists by no means by chance. The story of a peacefully sleeping country that became the object of a vile treacherous attack was very useful - this legend removed a lot of "unnecessary" questions about the real plans and tasks of Comrade Stalin. And now I have to admit that I misled tens of thousands of readers. Soviet historians did not come up with anything themselves. There is documentary evidence. Combat reports about the destruction of Soviet aircraft on the ground were received in the very first hours of the war! In the archive fund of the Air

Force Directorate of the Western Front, in Case No. 59 (operational reports of the headquarters of the 9th SAD), a telegraph form is stored. A disc of gray paper, half the size of a standard A4, on it is written in black pencil: “From Bialystok. Commander of the Air Force. The fighters are all destroyed. Please help. Chernykh". And the message transmission time: 10 hours–

31 minutes.[14] There is not the slightest reason to doubt the authenticity of this leaflet. And if such suspicions arise, they are immediately shattered on another document - on the other side of the front. The archive fund of captured documents contains a translation of the reconnaissance report of the headquarters of the 2nd Air Fleet of the Luftwaffe, where it is noted that on June 22 at 9.31 a radiogram from the commander of the 9th SAD was intercepted in clear text to the headquarters of the Air Force of the Western Front with the following –

content: “All fighters are destroyed. Please help. Chernykh.[15] Everything matches. Accurate to the minute (the difference of one hour is due to the discrepancy between Berlin and Moscow time). And here is another archival (as I could see, this epithet evokes sacred awe in some readers) document. All from the same Case No. 59. On a sheet of a school notebook “in a box” in red

pencil, without a date or number, it is written: “To the Air Force Commander of the Western Front. I report that by the end of the day 25.6. concentrated in the Mogilev area ... Our losses in air battles are no more than 5 aircraft. All the rest were burned at the airfields. Commander of th–

According to the traditional version of Soviet historiography, the 9th SAD (mixed air division), according to the traditional version of Soviet historiography, lost 347 combat aircraft on June 22, 1941, i.e., this division alone (one of the 25 air force divisions of the western districts, not counting Leningrad) accounted for more than a quarter of all losses on the first day of the war. If we believe the report of the division commander, then the losses were even greater (in total, by the beginning of hostilities, the 9th SAD had at least 420 combat aircraft, including 366 fighters). If all of them (with the exception of 5 aircraft shot down in air battles) were lost on the ground, then it turns out that the “airfield” losses of Soviet aviation on June 22, 1941 consist of half the

losses of the 9th SAD alone. How can one argue with a real, authentic archival document? You can't and shouldn't argue. Let's continue studying the documents. The following text (the original of the document is now stored in the Central Archive of

the FSB) is supposed to be read standing up: “In the

name of the Union of Soviet Socialist Republics. The Military Collegium of the Supreme Court of the USSR, consisting of the presiding military lawyer Orlov, members: military lawyer Kandybin and military lawyer 1st rank Cheptsov, under secretary Mazurov in a closed court session in the mountains. Moscow on July 28, 1941, considered the case on the charge of Sergey Alexandrovich Chernykh of a crime under Art. 193.21 p. "b" of the Criminal Code of the RSFSR.

The preliminary and judicial investigation established that the defendant Chernykh, being the commander of the 9th air division, during the beginning of the military operations of the German troops against the Union of Soviet Socialist Republics, showed criminal inaction in the duties assigned to him, as a result of which the division was destroyed by a Nazi air raid on the airfields of the division about 70% of the materiel of this division.

In addition, the defendant Chernykh, being on the night of June 26-27 at the Seshchensky airfield and mistaking the three Soviet aircraft that arrived at this airfield for fascist ones, showed cowardice, announced an aimless alarm, and then, leaving the leadership of the personnel of the division, in a panic state on the cargo car, headless

dress, belt and military weapons fled from the front to the city of Bryansk, where he was detained by the police and taken to the commandant of the garrison.

While in Bryansk, the defendant Chernykh spread provocative fabrications about the alleged enemy landing and bombardment of the Seschensky airfield. Thus, during the fighting with Nazi Germany,

the defendant Chernykh violated his military oath, forgot his duty to the socialist Motherland, showed cowardice and, leaving the leadership of the division's personnel, shamefully fled from the front to the city of Bryansk, where he spread provocative rumors about the defeat of the Red Army units. Army than committed a crime under Art. 193.21 p. "b" of the Criminal Code of the RSFSR. Based on the aforesaid and guided by Article. 319 and 320 of the Criminal Code of the RSFSR, the Military Collegium of the Supreme Court of the USSR sentenced: Sergey Alexandrovich Chernykh to be deprived of the military rank of Major General of

Aviation and subjected to the highest penalty - execution with confiscation of all property belonging to him personally. Based on Art. 33 of the Criminal Code of the RSFSR to file a petition before the Presidium of the Supreme Soviet of the USSR to deprive Cherny of the title of Hero of the Soviet Union and orders - Lenin, the Red Star and the anniversary medal "20 years of the Red Army". The verdict is final and not subject to cassation appeal."[17] The expression "fled from the front", repeated twice in the verdict, is at least

not accurate. On June 27, 1941, fighting was still going on on the outskirts of Minsk; —

scattered units and subunits of the troops of the Western Front, surrounded in the Slonim-Novogrudok region, fought with the despair of the doomed. The city of Sescha (on the border of the Smolensk and Bryansk regions), from the airfield of which the division commander left "in a truck, without a headgear, belt and military weapons", was already in the deep rear, at a distance of 300–400 km from the combat zone (there is no need to talk about the "front line" at that time) and more than 600 km from Bialystok - the place of the pre-war deployment of the headquarters of the 9th SAD. And from Seshchi to Bryansk - another 100 km along the highway. "Swipe steps

sazhens…"

Now let's move on from geography to simple arithmetic. The commander of the 9th SAD at 10.30 on June 22 reports that "the fighters were destroyed

All". The military collegium of the Armed Forces - in a execution, mind you, verdict, that is, where one could expect the utmost "exaggeration" - claims that only 70% of the materiel of the division was destroyed at the airfields. Yes, that's right: "only".

Why? There were a lot of planes in the division. Even 30% of the original number is about 110 cars. Not every Luftwaffe fighter squadron on the Eastern Front had such a number of serviceable aircraft, but their commanders did not cry for help at all ... So what happened on the morning of June 22 at the airfields of the 9th

SAD? The materials of the investigation and the protocols of interrogations of S. Chernykh (criminal investigation case No. R-23923) are still inaccessible to historians (not to mention the fact that the specific "investigation methods" of the NKVD will inevitably cast doubt on the reliability of the testimony, as soon as they are declassified) . In the meantime, let's try to "tweak the sharpness", that is, turn to the operational documents of the air regiments that were part of the division. At first

glance, the chances of finding something are negligible - what documents could remain from the regiments defeated in the very first hours of the war? The fund of the 9th air division itself (TsAMO, f. 20048A, op. 2) contains the only

Case: "Regular-duty book of officers and non-commissioned officers." The reports cited above, written in pencil on scraps of paper, have been preserved in the archival fund of a higher authority - the headquarters of the Air Force of the Western Front. Documents at the regimental level do not, as a rule, arrive at the headquarters of the front (that is, through the "three steps" on the ladder "division - army - front"). In the funds of the defeated air regiments, at best, it is possible to find some kind of "Historical Form", compiled by the new command a few months after the events described. And yet who seeks, he finds. I confess

that when two typewritten sheets of paper with the heading “Opersvodka No. 01 by 12.00 22.6.41, headquarters of the 124th air regiment, Vysokie-Mazowieck” lay on the table in front of me, I felt a sudden defocusing of vision: my eyes, which had gone out of obedience, tried to read all at once. And they can be understood - real

original document! There is nowhere more primary - noon of the first day of the war! And the regiment, not only what kind - in terms of the number of the latest MiG-3 fighters at that time (70 units), the largest, and not only in the 9th SAD, but also among all the fighter aviation regiments of the Soviet Air Force.

Here is the full text of Operational Report No. 01, from the first to the last letter: [18] “First: The

regiment during 22.6.41 made three sorties in
consisting of 48 MiG-3 aircraft to destroy enemy aircraft.

The first sortie was made on combat alert at 0430, consisting of 28 MiG-3s. There was no air combat, with the exception of ml. Lieutenant Kokarev, who shot down one Me-110. At 5.25

one Yu-88 aircraft flew over the airfield at an altitude of 800 m, followed by a raid by two enemy Me 109 aircraft, as a result of the ensuing battle between our aircraft and enemy aircraft, one MiG-3 aircraft was shot down, pilot Jr. Lieutenant Zharkov died. At 5.35 a group of 18 bombers, escorted by 7 Me-109 fighters, dropped

bombs in the eastern part of the airfield 400 m at the edge of the forest (as in the text). As a result of an enemy air raid, 3 people from the 156th battalion (airfield maintenance battalion. - M.S.) were killed, 26 people were injured, including pilot Jr. lieutenant Artamonovostalnye - Red Army soldiers of the 156th battalion.

Second. At 0840, two Yu-88 planes reconnoitered the airfield at an altitude of 5000 m, made two turns over the airfield, after which one plane flew to the west and one to the east. At 10.20 at an altitude

of 2500 m, three groups of bombers appeared - about 30 aircraft of an unidentified type, bombed the V-Mazowieck airfield. Our fighters, consisting of 12 MiG-3 aircraft, made a sortie, but did not conduct air combat due to the fact that enemy bombers managed to drop bombs on the airfield and retreat to their territory. As a result of the bombing raid, a gas storage facility caught fire, a large number of vehicles were destroyed, and up to 15 MiG-3 aircraft were burned on the ground. 4 pilots, 1 technician and 1 junior specialist were killed, 2 pilots and 3 technicians were wounded. Third. At 11.15, 6 Me-110 aircraft carried out dive bombing and ground attack operations on aircraft that were on

airfield. Within 20 minutes of the raid, up to 12 MiG-3, 2 I-16, 4 UTI-4 aircraft were destroyed and one I-16 was shot down in the air. In this raid, our fighters, consisting of 3 MiG-3 aircraft, took off and started an air battle. During the air battle, one enemy aircraft Me-109 (as in the text) was shot down by Captain Kruglov.

Fourth. At 15.30, a group of 18 bombers and 7 Me-PO attack aircraft carried out bombing and assault attacks on aircraft and personnel on the ground. In this raid, the regiment did not conduct combat operations due to the lack of materiel. The materiel remaining intact in the amount of 6 MiG-3 aircraft was transferred to the Ross airfield.

At 16.20, 9 Do-17 aircraft, accompanied by 7 Me-110 fighters, attacked the airfield, as a result of which our aircraft were completely disabled by dropped bombs.

Fifth. As a result of hostilities during 22.6.41 we shot down two enemy planes of the Me-110 type. The

regiment has aircraft losses: 68 MiG-3s, 5 I-16s, 7 UTI-4s, 9 UT-1s, 2 U-2s; of which 3 I-16s were destroyed at the Lomza airfield, 9 MiG-3 aircraft were left in the hangars at the Bialystok airfield; 6 MiG-3 aircraft and 2 UTI-4 aircraft were destroyed at the Ross airfield. One MiG-3 aircraft and one I-16 aircraft were shot down in air combat. The rest of the planes were destroyed by the enemy at the airfield V. Mazowieck.

Personnel killed 9 pilots, 5 technicians, 2 ml. aviation specialist. Wounded 6 pilots, 6 technicians, 1 ml. airman. The regiment, having

suffered heavy losses in equipment, changed its deployment in the composition of 45 pilots, 50 technicians, 37 ml. aviation specialists and proceeded to put together a regiment and receive materiel for further combat operations. Beginning

Headquarters Major Dryzlov (signature), early. Operations Department

Captain Shagin (signature)." As you can see, the document is very detailed, it reflects even insignificant details of the events (“they made two turns over the airfield, after which one plane flew to the west and one to the east”). By 12 noon, the compilers of the report know both what happened

at 15.30 and what happened at 16.20. The destruction of 6 MiG-3 aircraft at the Ross airfield (110 km east of Vysokie Mazowieck) occurred

(if it happened) even later, but Major Dryzlov and Captain Shagin also know about this. The key to such supernatural clairvoyance is revealed very simply. At the bottom of the second sheet of the document, the outgoing number 01 is entered in blue pencil (which is quite natural for Opersvodka No. 01) and the date: 1.7.41. First of July. Tenth day of the war. Even lower is a handwritten inscription: “Got 1.7. 41 12.00. The signature is illegible, it looks like "V. Brave."

After 1 hour 45 minutes. the same V. Khrabrov signed (this time in black pencil) that on 1.7.41 at 13.45 he received the following document from Major Dryzlov:[19]

“To the Chief of the Operational Department of the Headquarters of the 9th SAD. In addition to Opersvodka No. 01 I report:

22.6.41 after a six-time raid by German bombers on the V-Mazowieck airfield and the destruction of the equipment of aircraft and vehicles by me at 22 hours 10 minutes. 22.6. it was decided due to the lack of communication with the headquarters of the 9th SAD to withdraw the personnel and part of the necessary documentation of the headquarters to Bialystok for further instructions. The headquarters of the regiment and part of the flight and technical staff in the amount of 19 people arrived in Bialystok at 01.30 23.6. Having learned about the departure of the division headquarters from Bialystok, in search of personnel and the headquarters of the division, the headquarters of the regiment passed the points: Bialystok, Kvatery, Volkovysk, Zelva, Slonim, Baranovichi, Slutsk, Pukhovichi, Bobruisk, Mogilev, Orsha, Smolensk, Roslavl, Sescha, Bryansk, Eagle. On the way to the indicated points, it was collected: 160 people following the marching order and partly on

vehicles, of which 54 people were flight crews, 58 technical staff, 15 staff commanders, ml. aviation specialists 31 people, 2 Red Army soldiers. 40 people flight personnel are on a business trip to Moscow to receive materiel. Beginning Headquarters Major Dryzlov (signature). Even in a straight line, the march route of the headquarters of the 124th IAP is at least 950 km, and even more

along the roads. As can be assumed, the

writing and signing of the papers took place at the final destination of the route, the city of Orel (although in this case it becomes

incomprehensible - why was the movement of the division commander from Seshcha to Bryansk called "flight"? Eagle 100 km east of Bryansk, i.e. even further from the front ...). This assumption is indirectly confirmed by the fact that the Opersvodka (b / n) of the headquarters of the 9th SADOK 22.00 30.6.41 was

also compiled in the city of Orel.[20] The people of the military, I hope, appreciated the situation. For other readers, I explain. An operational summary is a combat document, the form and content of which are strictly regulated. As a rule, two (sometimes three) Operative reports are compiled during the day; the time of submission of the report is established by his order by the superior head; the performer indicates the time of preparation of the document to the nearest minute. The location of the headquarters, the head of which signed the Operative report, is indicated quite specifically and accurately, for example: "the edge of the forest 3 km southwest of Elkhovka station." The exact indication of the location of the headquarters of the unit (connection) in this case is not a formal manifestation of verbalism, but an absolutely necessary condition for maintaining controllability of the troops - the superior commander needs to know exactly where the headquarters of the units entrusted to him are located. If it is planned to relocate the headquarters, then this circumstance should also be clearly and clearly

reflected in the document: "by 23.00, the headquarters is a crossroads south of height 286." To write "Vysokie-Mazowieck" on the Operative report, compiled in the deepest rear, many hundreds of kilometers from the front, and even to make a mistake with the time of compiling the report for 10 days - this is a military crime. In fact, under the title "Operational report by 12.00 22.6.41", an "explanatory note" was drawn up retroactively, which should explain the complete absence of the regiment's military equipment. But the chief of staff of the 124th IAP and the head of the Operations Department of the 9th SAD - both who moved from Bialystok to Orel during the first 10 days of the war - understand each other well and "do not cling to trifles." Even to such as the obvious discrepancy between the number of aircraft destroyed (allegedly) by the enemy with the initial number of aircraft of the 124th IAP and a panic radiogram (“all fighters were destroyed”) sent to the front air force h

Nevertheless, long before the circumstances of the defeat of the 9th SAD interested historians, the “3rd Directorate of the NPO” came to grips with this issue (as the military counterintelligence was called at that time, on July 17, 1941 it was again transferred to the NKVD and received a new old name "special department"). Theoretically, the documents of the "Special Departments" are still unavailable, but "the severity of Russian laws is mitigated by their non-execution." In this case, it is an excessive amount of papers that any bureaucratic machine produces. Some copies of some reports of the "3rd Directorate" ended up in the archives of the Main Political Directorate of the Red Army. According to the rules, the documents of the summer of 1941 should have been kept at TsAMO, but by a lucky chance they were in the public domain at the RGVA (Russian State Military Archive), where they were discovered and published by the famous Russian historian M.I. Meltyukhov. [21] And to a —

completely random coincidence, we owe the fact that among the available documents was the Special Communication of the 3rd Directorate of the NPO No. 37928 dated July 15, 1941:

“The investigation into the reasons for the destruction of all materiel by fascist aviation in the 41st and 124th IAP of the 9th mixed air division established: The commander

of the 41st aviation regiment, Major Ershov, at the time of the enemy aircraft raid on the morning of June 22, was confused and could not organize the personnel of the regiment for rebuff to the enemy. Despite the fact that during the first raid of fascist aircraft on the Seburchin airfield, where the 41st NAL was stationed, the enemy did not disable a single combat aircraft (emphasized by me. - M.S), since they were all dispersed and camouflaged, Ershov did not took independent actions to deliver a decisive blow [on] enemy aircraft, awaiting instructions from the command of the 9th AD.

Major Ershov, having a combat regiment at his disposal, instead of deciding to act in formations, sent 1-2 aircraft towards the enemy, which were destroyed by the enemy. Thus, the best pilots of the regiment were killed: Solokha, Aksenov, Chernyavsky, and Krutoverets, Korobkov, Kukushkin and Kiselev were shot down. Ershov, without

having to relocate from the Siburchin airfield, since this airfield had everything for combat,

decided to transfer the regiment to the Kuryany airfield, and then on the evening of June 22 he moved to the Kvater airfield. Subsequently, all the materiel was destroyed due to the fact that the aircraft at these airfields did not have air to refuel the aircraft (one of the ways to start the engine on the MiG-3 involved the use of compressed air from an external source. - M.S.) and cartridges for the BS machine gun, being incompetent. The commander of the 124th NAL,

Major Polunin, was on vacation at the time of hostilities and arrived at the regiment only on the afternoon of June 22, when the enemy had already made two raids on the airfield. After the third raid by enemy aircraft, Polunin flew away on a UTI-4 aircraft without giving any instructions. The

assistant commander of the 124th IAP, Captain Kruglov, remained with the regiment commander during his vacation, on June 22 in the morning, during a raid by fascist aviation, he was confused and did not take decisive measures to combat it. All Kruglov's orders were unorganized. Aircraft were launched into the air not by units, but by singles, which did not give the desired effect in repelling enemy aircraft. Most of the MIG-3 fighters did not fire machine guns, since the team of plant No. 1 did not have time to adjust them. All this led to the fact that all the planes of the regiment were destroyed."[22] After

carefully rereading these documents, we begin to understand that the enemy, of course, had something to do with the loss of all the aircraft of the 41st and 124th air regiments, but rather indirectly than directly. In any case, during the first air raid, the enemy did not disable a single combat aircraft - this is how the events of the first hours of the war are described both in the Operations Report No.

It is impossible not to note a very superficial and hasty analysis of events. "The conducted investigation into the reasons for the destruction of materiel" ignores many important circumstances. In particular, the lack of compressed air at the Kvatera airfield (and this was, by the way, the largest airfield in the 12th air base area, where the 9th SAD was deployed) made it difficult, but by no means impossible, to launch aircraft engines - autostarters were invented and delivered to the troops (in particular, in the 9th SAD, as of May 1, 1941, there were 25 of them) at all

not so that 19 people, having covered this car with clusters, traveled from Bialystok to Orel. Not so hopeless is the lack of cartridges for the BS large-caliber machine gun (a relatively new aviation weapon at that time) in Kvater, because the MiG-3 and I-16 fighters, along with the BS, had 7.62-mm ShKAS machine guns; this is the standard armament of all, without exception (!) combat aircraft of the Soviet Air Force of that period, and the absence of cartridges for ShKAS at a large military airfield is extremely unlikely.

Finally, in the report of the "special officers" the regiment commander was named responsible for making the decision on the suicidal (without ammunition, without the necessary equipment, without technical personnel) relocation of the 4.1st IAP. Is it so? What did the command of the 9th SAD do at that moment and what decisions did it make? Or did Chernykh limit himself to just stating a non-existent fact ("all fighters were destroyed")? There is no answer to these questions in Special Communication No. 37928. A very strange "answer" was found in a

completely unexpected place - in the archives of the 1st Tank Division of the Leningrad Military District. This division met the beginning of the war in echelons, moving from Pskov to the distant Arctic town of Alakurtti. The 1st Panzer had nothing to do with the military operations of the Western Front (and even more so with the war in the air), however, it was in the archives of this formation that a copy of the order to the

troops of the Western Front No.

tribunal. The commander of the 9th SAD, Major General Chernykh, as a result of a criminal attitude to his official duties, complete disregard for the situation, forbade the relocation of the materiel (emphasis added by me. - M.S.), he contributed to the destruction of aircraft by the enemy at the airfield. In addition, being sent to the rear to form new units, Major General Chernykh showed cowardice and alarmism there too ... The order to explain to all command personnel, including regimental commanders. "[23]

Marshal Timoshenko himself was the commander of the Western Front at that time. This is probably why the instruction ("an order to explain to all command personnel ...") followed and copies of the document were sent to the headquarters of the formations

other fronts. Be that as it may, the Military Collegium of the Supreme Court found General Chernykh guilty of "criminal inaction", Marshal Timoshenko accuses him of a criminal act ("forbade the relocation of materiel"); the investigation of military counterintelligence states that there was no need for a hasty “relocation” at all, and it was this that served as the impetus for the collapse of the 41st air regiment ... In the preface to the first edition of Aerodromes, I wrote: “Let me

remind you that the archive is not that mysterious ROOM

from the famous novel by the Strugatskys, in which everything secret became clear. An archive is just a warehouse in which paper information is stored. The authenticity of the yellowed piece of paper is not in the least proof of the reliability of the information that is recorded on this piece of paper. For example, the original protocol of interrogation of Bukharin with his own handwritten signature is not yet proof of the reliability of the information that the “party favorite”, together with Rykov, poured crushed glass into the workers’ butter ... For this reason, the notorious “access to the archive” does not in the least exonerate researcher from the most difficult part of the work - from assessing the reliability of the information found. ”[24]

Since then, I have had the opportunity to familiarize myself with tens of thousands of pages of archival documents from the four most important historical archives of the country (TsAMO, RGVA, RGASPI, GARF), and now I am ready to sign my own words again: “The archive is just a warehouse of yellowed pieces of paper.” There are no tablets of the Covenant given to people by the Almighty himself. The words that are written on the pages of archival documents are written by people. These people had their weaknesses, their own personal interests and ambitions, they (like everyone else) could make mistakes, and - unlike you and me - the

authors of all these countless Operational Reports of Battle Reports acted in a state of severe stress. They were at war: they were killed, they were killed, and no one knew if he would see the dawn of tomorrow.

That is why hundreds of non-existent German landings land on the pages of authentic archival documents, German fighters with red stars on their sides shoot down Soviet

bombers, Finnish rifle brigades are fighting near Stalingrad, and a column of a thousand (!) German tanks is moving along the Brest-Kovel highway, and it takes four days for reconnaissance (including aviation) of the South-Western Front in order to make sure that it is absent ... That is why it is blatantly stupid to contrast "true" archival documents and supposedly "lightweight" memoirs. Memoirs (if we are talking about the memoirs of high-ranking military leaders) and combat documents of the 41st year were written - in the literal sense of these words - by the same people. In a certain sense, the memoirs can be even more reliable - in the cozy silence of the general's dacha, with a ceremonial uniform hung with clusters of orders, one could afford some self-critical frankness. The commanders of the regiments and divisions defeated in the first days of the war clearly felt the chill of the execution cellar behind their backs, and this could not but affect the content of the Opersvodok they signed.

It is important to note that the defiantly dismissive attitude towards all sources of historical information other than archival ones is an “invention of modern times”. There was nothing like it in the past. In particular, memoir literature (as well as oral reminiscences of witnesses and participants in the events), according to all the canons of “source study” (there is such a term in historical science), has always been considered a completely “legitimate” source, its use in scientific research was only welcomed. Everything changed after the “house of cards” of the traditional Soviet historiography of World War II began to fall apart at the turn of the 1980s and 1990s. The first works of the new historiography (I mean, first of all, the books of V. Suvorov) were written by authors who did not have access to the archives; written mainly from memoirs and open publications. It was here that the defenders of party-historical mythology fussed - they instantly remembered that the archives were still in their hands, and hurried to declare ALL other sources (including their own "scientific works" and memoirs of Soviet commanders glorified by them) lightweight " murzilkas”, referring to which in a serious study is simply ridiculous.

A few years ago, one of my unscrupulous critics wrote a note with a mocking title: "Amateur Historian Suggests Cancellation of Archives." Without digressing into a controversy of this level, I want to draw the attention of readers to something more important. The military-historical archive is the most important and richest source of information; The whole truth is hidden in archival documents. The problem is only in the correct placement of stress - on the first word. All the truth. Too much truth. The panicked radiogram of the commander of the 9th SAD (not its content, but the very fact of sending it, and even in clear text - which, as we can see from another archival document, did not pass by the attention of the enemy) - this is also part of the truth about the state and actions Soviet Air Force. And countless reports about the mythical German landings, and reconnaissance reports on the movement of the enemy's tank column along the Brest-Kovel highway, and the "Opsvodka by 12.00 22.6", composed on July 1 - all this is very important information. The difficult task of the researcher is to understand - what does this information indicate? About the super-efficient German air raid? Or about the monstrous chaos and panic that engulfed the command echelon of the Red Army?

And the last. The more a person learns, the greater the ocean of the incomprehensible and incomprehensible becomes available to his mental gaze. On the pages of this book, the reader will find hundreds of references to primary documents, many of which are being introduced into scientific circulation for the first time. Nevertheless, I must immediately warn you - the number of questions that arise after reading, exceeds the number of answers found by the author. This book does not pretend to "close the problem". This is just as certain as the fact that you have to learn a lot of new and unexpected things.

Chapter 1 SOVIET AIR FORCE ON THE EVE OF THE WAR WITH GERMANY

On June 22, 1941, a large Luftwaffe grouping was concentrated near the western borders of the Soviet Union (including the Arctic), as part of the 61st air group (air regiment), three squadrons each. In total, taking into account incomplete air groups, there are 187 squadrons of combat aircraft (fighters, bombers, attack aircraft). This group was armed with 2253 combat aircraft (fighters, Luftwaffe bombers and attack aircraft), of which 1761 aircraft were in good condition.

So many air groups and serviceable aircraft on the Eastern Front were only on June 22, in all subsequent days of 1941 the number of the Luftwaffe grouping was smaller, at times significantly (twice) less. Having remembered these

figures and taking them as a “reference point” for comparison, let us now turn to the history of the creation and pre-war development of the Soviet Air Force.

1.1. Takeoff

We should start from July 8, 1929, when the Politburo of the Central Committee of the All-Union Communist Party of Bolsheviks adopted the resolutions “On the state of defense of the USSR” and “On the military industry”. These documents defined the basic principles for building the Armed Forces of the USSR, namely:

- quantitatively not inferior to a possible enemy in the main theater of operations; - have a qualitative superiority over the enemy in two three strategic types of weapons, including aviation.

The following quantitative indicators of the number of aviation were established: 2000 combat aircraft in peacetime plus 500 aircraft in the first reserve echelon (hereinafter, unless otherwise specified, the figures are given from the monograph by Doctor of Historical Sciences A.S. Stepanov "Development of Soviet Aviation in the prewar period).[26] Of course, such "paltry" figures did not last long. Already in February 1932, the Council of Labor and Defense (STO) decided to increase the production of aircraft by January 1, 1935 (all types, not long combat, but excluding light "airplanes") to the level of 23 thousand per year, aircraft engines - 84 thousand per year.

In 1932, the Headquarters of the Red Army, headed by the future Marshal A.I. Egorov, demanded the creation of such a "military production base" that would ensure the mobilization deployment of the Soviet Air Force consisting of 32 (thirty-two) thousand aircraft, including 8 thousand heavy and 9.5 thousand light bombers. It is worth noting that by that time Hitler was still only shouting at rallies, and the coalition of France, Poland and Romania, which did not have even one twentieth of such an enchanting fleet of bombers, was considered a potential enemy of the USSR in Europe. To tell the truth, the "dizzy with success" of the first five-year plan was short-lived.

In mid-April 1935, the Red Army Headquarters presented a new program for the development of the USSR Armed Forces for 1935-1938. With regard to aviation, the “modest” task was set to bring the number of Soviet Air Forces up to 6,150 aircraft by May 1, 1936. TO

At the beginning of 1939, it was supposed to have 10,000 combat aircraft in service (with a total fleet of 15,000 aircraft).

This program ran successfully (although not without problems and temporary failures). If for all four years of the first five-year plan the aviation industry produced 4289 aircraft, then in 1933–1934. the volume of production was 4 thousand aircraft annually. In 1935, there was (mainly due to the difficulties associated with mastering the serial production of aircraft of the new "high-speed" generation) a decline in production to 2.5 thousand, but by 1937 the volume of annual production exceeded 6 thousand aircraft. In

1936, Louis Charles Breguet, an outstanding French aircraft designer, a future member of the Resistance movement, and a future creator of jet Mirages, was able to visit the aviation factories of the USSR. Returning home, he wrote: “Using the labor of ten times more workers than France, the Soviet aviation industry produces 20

times more aircraft. In this phrase, of course, there are more emotions than statistics. But what is interesting is that the same emotions arose after visiting French aviation enterprises in the same 1936 and the young Soviet aircraft designer A. Yakovlev: “Examining the aviation factories of France, I involuntarily compared them with ours. And each time, with deep satisfaction, I came to the conclusion that in terms of scale, in terms of the quality of equipment, not one of the French enterprises I saw could be compared with any of our ordinary aircraft factories. Now, some statistics.

In 1936, the French Air Force was armed with 386 aircraft, including 194 (one hundred and ninety-four) combat aircraft. Only in 1938 did the serial production of the first mass-produced monoplane fighter begin; they became Morane Solne (Morane-Saulnier) MS-406. This aircraft was produced in a huge (by French standards) quantity - until May 1940, 1098 units were delivered. The main brake on production was an acute shortage of engines - the French industry was unable to supply the Hispano-Suiza HS-12Y31 engines in the required quantity. In May 1939, the French government requested the consent of the USSR government for the purchase of 200 Hispano Suiz, which, under a French license and under modest

proletarian names M-100 / M-103 were produced at the engine plant number 26 in Rybinsk. The engines were not sold to the French, but it is worth noting that in 1939, plant No. 26 produced 5266 M-103s, not counting the engines of the new modification (M-104 and M-105)

In the end, it was possible to reach the set mark - 10 thousand aircraft in the combat units of the Red Army Air Force - with a slight delay: not by January 1, but by October 1, 1939 (that is, almost by the very beginning of World War II). By this time, Soviet aviation in terms of the number of combat aircraft surpassed the aviation of England, Germany, Italy and France combined.

The huge volume of aviation production made it possible to deploy the Soviet Air Force in the composition of 137 aircraft by the beginning of the European war.
air regiments:

- 56 fighter; - 53 bombers;
- 6 mixed; - 4 regiments of
heavy bombers
TB-3; - 18 light bomber and light assault. The fighter
and assault air regiments organizationally consisted of 4
squadrons of 15 aircraft each plus a control link, a total of 63 aircraft. The bomber regiments had 5 squadrons of 12 aircraft each plus the commander's aircraft, for a total of 61 aircraft. Thus, the Soviet air regiment was one and a half times larger than the Luftwaffe air group in terms of the number of aircraft (three squadrons of 12 aircraft each plus a control link, a total of 40 aircraft). Only a regiment of heavy four-engine TB-3s was armed with 40 aircraft. Even if we do not take into account the 18 so-called "light bomber" and "light assault" air regiments (these air units were armed mainly with obsolete biplanes: R-Zet reconnaissance aircraft and I-15 light fighters), the strength of the Soviet Air Force at that time corresponded to 177 " design air groups" of the Luftwaffe. Of course, this was unacceptably small, so the quantitative growth of the military aviation of the Soviet Union continued at an accelerating pace. In 1940, the "peaceful creative work of the Soviet people" added 4153 fighters and 3575 bombers to the arsenals of the Air Force. As of July 4

1940 (on this day, People's Commissar of Defense Timoshenko sent another memorandum addressed to Stalin and Molotov) the 181 air regiment was already included in the Red

Army Air Force. On November 5, 1940, the Politburo approved a program for the further development of military aviation: by January 1, 1941, its strength was to be increased to 239 air regiments with 14,108 combat aircraft in service. By the end of 1941, the Red Army Air Force was to be deployed as part of 343 air regiments (including 149 fighter, 144 bomber, 22 regiments of long-range twin-engine escort fighters). This Great Armada was to be armed with 22,170 combat aircraft (another 10,457 aircraft were supposed to be kept as a reserve, as part of auxiliary units and military schools).[27] These are plans. In fact, by January 1, –

1941, there were already 29,869 aircraft of all types on the balance of the Air Force (including faulty ones, including training and auxiliary units and institutions). The aircraft production plan for 1941 provided for the production of 16,530 combat aircraft (moreover, these figures were systematically adjusted upwards). What is the result of such grandiose intentions? Apparently

no one knows the exact answer. Signed by Vatutin (Chief of the Operational Directorate of the General Staff of the Red Army) on June 13, 1941, the “Reference on the deployment of the USSR Armed Forces in the event of a war in the West” reports the presence of 218 “combat-ready air regiments” (97 fighter, 110 bomber, 11 assault).[28] But already in the next paragraph, where the distribution of these forces along –

the fronts is indicated, simple arithmetic summation leads to the number of 225 air regiments. The well-known "Considerations on the Plan of Strategic Deployment" of May 1941 give the same figure: 218 air regiments "available and combat-ready today." The authors of the monograph "1941 - Lessons and Conclusions" argue that by June 1, there were already 266 air regiments in service ...

Poor Churchill... September 1, 1941, he wrote to the Chief of Staff of the Royal Air Force: "I was delighted to learn from the latest report that the air force of the mother country has actually one hundred squadrons of fighter aircraft..." By the standards of Comrade Stalin,

such trifles were only enough to form 30 fighter regiments (according to the staffing table, the Royal Air Force squadron had 18 aircraft, so 100 squadrons is not 1200, but 1800 aircraft). But that's not all. In addition to "ground aviation",

the air forces of the Soviet Union included the Air Force of the Navy. It was a completely independent structure, which had its own commander (in June 1939, brigade commander S.F. Zhavoronkov was appointed to this position), the main headquarters, the corresponding headquarters of the Air Force of the fleets, with general subordination to the People's Commissar of the Navy of the USSR. By the beginning of the war with Germany, the naval aviation was armed with 3838 aircraft, including 2824 combat aircraft, and 68% of the total number of combat vehicles were conventional, "ground" fighters and bombers, which could be successfully used for operations in the land theater. It is easy to see that there were more combat aircraft alone in the Air Force of the Fleets (the existence of which is traditionally “forgotten”) than in the entire Luftwaffe grouping on the Eastern Front.

These are the facts. For the most part, these facts were introduced into scientific circulation more than 15–20 years ago, and their reliability is beyond doubt. The conclusions from these facts can be very different. In particular, most of the Russian (former party-Soviet) historians and, quite remarkably, their Western colleagues, based on these facts, came to the conclusion that Soviet combat aircraft were worthless junk. "Hopelessly outdated plywood shelves, no match for the mighty airships of the Luftwaffe." Such a conclusion was by no means based on the results of thorough studies of aerodynamics and flight dynamics, computer simulation of air battles and field testing of weapons. Why such difficulties? Everything was made much simpler and incomparably more efficient.

Surprising conclusion about The fact that the most powerful aviation industry in the world has been riveting “troughs with wings” from year to year is based on the natural desire of the human psyche to get out of a state of cognitive dissonance. Knowledge of what happened in the summer of 1941 does not fit in with the colossal

the strength of the Soviet Air Force. In this situation, the easiest way to console yourself and regain peace of mind is to declare tens of thousands of Soviet aircraft "hopelessly outdated trash."

We will go the other way. A fairly detailed review of the tactical and technical characteristics of Soviet, German, British and French combat aircraft during the beginning of World War II I offered readers in my previous books. [24,25] A brief, concise comparison of the characteristics of Soviet and German aircraft will be presented on the last pages of this book (the reader who has the patience to read all the previous pages will easily understand why the conversation about millimeters of machine gun calibers and seconds of steady turn is referred to in far end of the book). In this chapter, we will discuss only the most general, undoubted by most specialists.

theses.

In the mid-1930s, the main combat aircraft of the Soviet Air Force (the I-16 fighter, the SB light front-line bomber, and the DB-3 long-range bomber) corresponded to the best world standards in terms of their entire range of tactical and technical characteristics. Moreover, at the time of their appearance, it was they (first of all, this refers to the magnificent I-16 fighter) that set the “best world standards”. As for the heavy (20 tons take-off weight) all-metal four-engine bomber TB-3, this airship had no analogues in the world at all (the mass production of the giant began back in 1932, at the same time the formation of heavy bomber air brigades began, t i.e. the first in the history of strategic aviation formations). The first months of air battles in the skies of Spain showed a clear superiority of Soviet aircraft over Italian and German ones (the archaic Heinkel He-51 biplane fighter and the

Junker bomber hastily converted from a transport aircraft

Ju-86) aircraft. The

reports of the pilots unanimously testified that the enemy fighters could not catch up with the SB; dry statistics indicate that during the two years of the Spanish war, SB bombers completed 5564 sorties, the average period

the life of the aircraft was 172 days, for one combat loss there were 50-60 sorties - the figures are very worthy.

The first meeting of the Soviet I-16 fighter and the latest (serial production began in February 1937) German Messerschmitt Bf-109B fighter took place on May 15, 1937 and ended with the destruction of the German aircraft.[29] Of course, the outcome of

a single battle could not serve as a basis for statistically significant conclusions, but the Soviet and Spanish pilots did not find anything outstanding in the new German fighter. In terms of maximum speed (460 km / h) and armament (2 rifle-caliber machine guns), the I-16 type 5 and Bf-109B were equal; everything else - horizontal maneuverability, rate of climb, combat survivability (due to the use of an air-cooled engine and the pilot's armored back) - was better for the Soviet fighter. It remains only to add that the I-16 type 5 was put into serial production as early as July 1935. The same situation developed with other “pairs” of combat aircraft of the

36-37s: the SB light high-speed bomber was at least as good as the German one " Dornier Do-17, the DB-3 medium bomber was superior to the German Heinkel He-111 in a number of important parameters (range, rate of climb, ceiling). It is also important to note that Soviet combat aircraft were put into production 1–2 years earlier than their German competitors, so the period of “childhood illnesses” was already a thing of the past. The British and French Air Forces lagged behind even more - serial production of the first English high-speed fighter "Hurricane" began in October 1937, the French MS-406 mentioned above was put into series only in June 1938.

For a number of reasons (the discussion of which is beyond the scope of our task), all these facts seem to the modern Russian reader to be something completely unreal. As a matter of fact, the "miracle" of the short-term leadership of the Soviet Air Force was quite understandable.

The first and most important explanation is that even a hungry collective farm horse can easily overtake an Arabian horse - if the horse is tethered in a stall. Germany had everything necessary to create a modern combat aircraft -

huge industrial potential, centuries-old traditions of technical creativity, powerful scientific institutions (the outstanding achievements of the German school of aerodynamics are obvious and indisputable), rich experience in creating combat aircraft during the First World War. And all this was almost nullified by the restrictions of the Treaty of Versailles, under the terms of which Germany was forbidden to have and produce military aircraft. The "almost" clause is not accidental. Under a veil of secrecy, research laboratories worked, new technical solutions were worked out in the designs of civil aircraft, with an “eye for the future”, the most powerful aluminum production in Europe was launched (in 1939, primary aluminum production in Germany was four times higher than the corresponding figure in the USSR). Nevertheless, by the time the German designers drew the first center lines on the drawings of the first combat aircraft, their gap from Soviet competitors was measured in years.

The most powerful economy in the world, the American economy, had even greater potential. And she successfully used them. In the creation of passenger, transport, marine aircraft, US aircraft designers did not know their equals. Most of the key technical solutions that opened the way to high-speed aviation (a cantilever wing, a fuselage with a smooth working skin, an annular air-cooled engine cowling, wing mechanization, retractable landing gear, a variable pitch propeller) were first introduced into the design of production aircraft in the United States. [thirty] The huge size of the country and the high level of income of its inhabitants —

ensured a steady demand for passenger and cargo air transportation. Launched into mass production in 1936, the legendary Douglas DC-3 is rightfully considered the best passenger aircraft of the pre-war period; in the Soviet Union, its licensed version Li-2 remained in operation until the early 60s. But the political leadership of the United States did not see much need in creating powerful military

aviation. For what? They were separated from restless Europe by the vast expanses of the Atlantic, which at that time could not be overcome by any serial (or projected)

bomber - even in a suicidal one-way flight. To the north of the United States was quiet and friendly Canada, to the south - noisy but extremely weak Mexico. Why was it necessary to spend (and even in the context of a deep economic crisis in the early 1930s) the money of taxpaying voters on aimless military preparations? In 1939, the US Army was in 17th place in the world, outnumbered by the army of Romania. By September 1939, the US Army Air Force was armed with 489 fighters - such a figure could only cause contemptuous laughter from Comrade Stalin, who was prone to jokes and humor ... The two leading aviation powers of Europe - France

and Great Britain - seemed to have industrial potential, and a military-political task, for the solution of which it was necessary to develop military aviation at the maximum possible pace. However, nothing like this actually happened. Europe danced the foxtrot and tried its best to forget the nightmare of the fratricidal massacre of 1914-1918. A new war between the European peoples seemed to be something completely unbelievable. With whom and why to fight? Germany was reliably (as it seemed to many) disarmed; distant and mysterious Soviet Russia, mired in dubious social experiments, was not at all taken into account as a serious military force. An interesting detail: in August 1939, in the instructions for the British military mission at the tripartite negotiations in Moscow, the following estimate was given of the size of the Soviet Air Force: “The Russians have air forces west of Lake Baikal

forces of 1,000 bombers and 900 fighters.”[31] –

Moscow itself played a significant role in the short-sighted and frivolous inaction of European politicians, combining sharp criticism of “slobbering bourgeois pacifism” inside the country with amazing art with all-out support for “fighters for peace and disarmament” outside the borders of the USSR. Thus, the Soviet

aviation industry overtook the rival, who was in no hurry to go anywhere. The second circumstance

that should be taken into account is that Soviet aircraft were not entirely "Soviet" in origin. According to the highly authoritative opinion of N. Polikarpov

(chief designer of the I-16), success in creating a combat aircraft depended on the engine by 60%. If this is so, then the excellent performance characteristics of Polikarpov's fighters for their time were at least half provided by the American Wright-Cyclone R-1820 engine.

In 1932–1933 from America sinking in the waves of the Great Depression, they bought not just a license for production - the contract provided for the supply of a complete set of technological equipment (on which the giant aircraft engine plant No. 19 in Perm grew), commissioning and technical support for production, transfer of drawings and manufacturing technology for all subsequent modifications of the "Cyclone". The first M-25s (nee R-1820 F3) were assembled from American kits of assemblies and parts. Then they set up their own production of modifications G2, G5 and G100 (M-62 and M-63). The M-63 engine, weighing 520 kg, developed a takeoff power of 1100 l / s (nominal - 900 at an altitude of 4.5 km), turning the I-16 light fighter into a roaring monster, with the power-to-weight ratio of which only a few (!) German and British fighters at the end of World War II. The technical level of the “Cyclone” can be judged by the fact that it was these motors (in the amount of 4 pieces) that were on the famous American “Flying Fortresses” B-17, and the geared version of the R-1820 G5 is still called M-62IR operates in the sky on An-2 aircraft. In France, in June 1934, after many years of

careful search for the best sample, they purchased a license and some of the unique equipment for the production of the Hispano-Suiza HS-12Ybrs engine. At that time, it was probably the best liquid-cooled aircraft engine in the world (in terms of power / weight ratio). In 1935, the engine was put into mass production at plant number 26 in Rybinsk under the name M-100. On the next modification (M-103), due to the boost in speed and boost, the power was increased from 750 to 1000 l / s. This was followed by the M-105 (already significantly different in design from the French "original source"), the takeoff power of which was increased to 1100 l / s with a dead weight of 570 kg. It was the engines of the HS-12Y family that made it possible to create a high-speed SB bomber and ensured that its performance characteristics were maintained at a fairly high level until the early 40s.

The third member of the "miracle trio" of Soviet combat aircraft of the 30s - the medium ("long-range" in name) bomber DB-3 (aka Il-4) - was born thanks to the licensed production of the French engine "Gnome-Ron" 14K " Mistral Major. The license for production was purchased in 1934. The Mistral Major was a “double star” - an air-cooled engine in which 14 cylinders were arranged in the form of two 7-beam “stars”. It was one of the first engines of this type in the world (the “double star” arrangement made it possible to reduce the overall diameter of the engine, respectively, reducing its aerodynamic drag), and the development of production at plant No. 29 in Zaporizhia was very difficult. Nevertheless, from 1935 to 1938, three modifications were launched into the series (M-85, M-87, M-88), successively increasing power (from 850 to 1100 l / s) and engine altitude. Until the end of the 30s, the DB-Zf with the M-88 engine could be considered one of the best medium bombers in the world. Germany did not remain aloof from the creation of Soviet military aviation. In 1922, the

outstanding German aircraft designer and industrialist G. Junkere, who was deprived of the opportunity to work at home due to the restrictions of the Versailles Treaty, concluded a concession agreement with the government of Soviet Russia. In Fili, near Moscow, Junkers built a plant where the production of all-metal aircraft was launched, in the design and production of which Junkers was the undisputed world leader (in parentheses, we note that a high-strength alloy based on aluminum with the addition of copper, magnesium and manganese was invented in Germany and received its name "duralumin" from the German city of Düren, where its industrial production was started). In politics, the designer understood much worse, as a result of which he was expelled from the country in 1926, and the plant built by Junkers (Plant No. 22, now the Khrunichev Plant), along with unique equipment and technologies, remained in the USSR. It was at plant number 22 that the production of the heavy bomber TB-3 designed by A.N. Tupolev. Four M-17 engines (nee BMW-6) lifted the plane into the sky.

However, it must be admitted that by the time mass production began (1929), the M-17 was already obsolete, and for a heavy bomber it was clearly weak (later, a tank engine was developed on its basis, which was equipped with high-speed Soviet tanks of the BT series). On the TB-3 of the latest production series, A. Mikulin AM-34 engines of various modifications were installed. AM-34 FRN had the largest unit power (1200 l / s) among all aircraft engines then produced in the USSR, but at the same time it was the most bulky and inferior to everyone in power density and efficiency. To the credit of Soviet engineers, I would like to note that, according to Siegfried Breuer (Brueger) in the 1st volume of his study Soviet warship development, the Mikulinsky GAM-34 installed on torpedo boats was copied from the Italian Isotta-Fraschini engine (Isotta -Fraschini). The use of licensed aircraft engines is the most

visible, most significant, but by no means the only example of the introduction of the achievements of "bourgeois technology" in the Soviet aircraft industry. Autopilots, aircraft sights, radio equipment, hydraulic systems, etc. were copied from Western models. It would not be a big exaggeration to say that in the 1930s the Soviet aviation industry became a huge “serial factory”, where the best technical innovations created by scientists and designers were replicated in breathtaking quantities. Europe and USA. Recognizing the enormous achievements of the first Soviet five-year plans, it should be noted that the same “miracles” in our memory occurred (and are happening now) in South Korea, Taiwan, Malaysia, Indonesia ... The secret is known: the combination of the latest Western technologies with the almost free labor of local workers under a common leadership of a rigid authoritarian regime. The difference - and the difference is huge, qualitative - lies in the fact that Russia at the beginning of the 20th century was neither Malaysia nor Indonesia.

By the beginning of the First World War, Russia was one of the ten leading industrial countries in the world. Russia produced armored steel and locomotives, the most powerful radio tubes, aircraft, submarines, heavy cruisers, carburetor and diesel engines; the country built gigantic lengths of railways, huge bridges, grandiose architectural structures. worked in Russia

Zhukovsky and Chaplygin - scientists who laid the foundations of theoretical and experimental aerodynamics; In Russia, the world's first multi-engine bomber "Ilya Muromets" was created. This huge production and scientific and technical "reserve" was thoroughly undermined by a destructive social experiment, but by no means reduced to zero. Not all scientists and inventors wanted (or were able) to go to the West. It is no coincidence that the best combat aircraft of the 30s were created by Polikarpov, Tupolev, Arkhangelsky - engineers of the good old Russian school. It cannot be denied that the revolution, having destroyed (or forced to emigrate) a significant part of the old elite, opened the way to education and success for millions of "ordinary people" rejected by the former autocratic estate system. All this made it possible to master, implement (and in some cases surpass) the best achievements of Western technologies in the shortest possible time.

1.2. A crisis

At the turn of the 1930s and 1940s, the aviation industrial complex of the Soviet Union found itself (largely unexpectedly for its leaders) in a situation of acute crisis. This was facilitated by a variety of objective and subjective reasons that coincided in time. Their consideration we will begin with what is simpler - with the reasons of an objective nature. And they were actually the same ones that had

previously determined the short-term leadership of Soviet aviation - only this time with the exact opposite sign.

First, the mighty scientific, technical and production forces of the future opponents and allies of the USSR began to move. First of all, the rapid growth in the production of combat aircraft was indicated in Germany - Hitler was preparing for the Great War, the achievement of success in which was to a large extent associated with the massive use of aviation. On 2 June 1937 the Luftwaffe High Command (OKL) was formed; the commander-in-chief (and at the same time the minister of aviation) was Reichsmarschall G. Goering, one of the closest associates of the Nazi leader at that time (after the start of the World War, Hitler officially appointed him his successor). If for the whole of 1936, 289 German bombers were produced, then the following year their output increased to 1099 units; in 1939–1940 Germany produced an average of 3,000 bombers a year, i.e., 10 times more than in 1936. The following year, 1941, Germany already overtook the Soviet Union in terms of production of twin-engine bombers (3,783 versus 2,978), although significantly while lagging behind in the number of fighters produced (2852 against 7081).

It is important to note that such growth was achieved without excessive strain on the German economy: German aircraft factories continued to work in one (!) shift, with a 40-hour work week, while maintaining all holidays and weekends. The real "hands-on" began much later, when in 1943 the German aviation industry released

11,000, and in 1944, under a hail of Allied bombs, 24,000 fighters alone! With a noticeable

delay (in relation to Germany), its opponents, France and England, launched the mass production of combat aircraft. But even there the pace (alas, not absolute volumes) of aircraft production growth was quite impressive. In the last pre-war year (1938), the average monthly production of military aircraft in France was only 49 aircraft; as a result of such “work”, by the beginning of World War II, the French Air Force had only 1,400 combat aircraft in service. By the end of 1939, production had risen to 300 aircraft per month, and before the final crash, in May 1940, the rate of production of the Devuatin D-520 fighter alone exceeded 350 aircraft per month.[32] England resisted, so managed to achieve much more. If for the whole of 1938 only 200—

Hurricanes were produced (of which only 93 cars managed to reach the combat units), then in the summer of 1940, on the eve of the most dramatic events of the “Battle of Britain”, the monthly production of fighters (“Hurricane” and “ Spitfire") rose to the mark of 440-490 aircraft per month! In the shortest possible time, England was able to catch up and overtake the enemy in terms of fighter production (in June-September 1940, the German aircraft industry produced an average of 194 fighters per month), which largely determined the victory of the Royal Air Force in a grandiose air battle. ([33] , [34]) Like snow in the spring sun, the quality

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the superiority of Soviet aircraft. In July

1938 saw the start of serial production of the Spitfire, an amazingly beautiful aircraft that earned the right to claim the title of "best fighter of the Second World War." The design of the Spitfire combined the vast experience of Supermarine
(Supermarine) and its general designer R. Mitchell (who held the world speed record set on the S-6B seaplane back in 1931); achievements of the Rolls Royce engine building company, which created the Merlin liquid-cooled engine with unique power / weight parameters; the high technological level of British aircraft factories, which ensured the large-scale production of an elliptical wing. On

The output turned out to be a fighter that combines a record speed (570 km / h) with excellent horizontal maneuverability and powerful, by the standards of that time, weapons (8 machine guns of rifle caliber). The Germans,

not having time to develop a fundamentally new fighter, took the path of deep modernization of the "veteran" of the Spanish war. In January 1939, the Luftwaffe received the first Messerschmitt Bf-109 of the E series. While remaining externally similar to previous modifications, it was actually a different aircraft. In the same dimensions of the engine compartment, a new Daimler-Benz DB-601A engine with a takeoff power of 1050 l / s was placed (the engine of previous modifications had a power of 700 l / s). The engine was equipped with a supercharger hydraulic drive, unique for that time, which ensured smooth stepless adjustment of boost. An important advantage of the DB-601 over any modern engines was direct fuel injection into the cylinders (what is today called an "injector") - the absence of a carburetor with a float chamber ensured stable operation of the engine during intensive maneuvering of the fighter aircraft. The armament of the Bf 109E was also significantly strengthened - two 20-mm MG-FF cannons mounted in the wings were added to the two rifle-caliber machine guns.

In October 1940, military trials of the next modification of the Messerschmitt began. The designers maximally "ennobled" the aerodynamic shape of the aircraft, the engine builders boosted the engine to takeoff power of 1360 l / s (DB-601E). As a result, the maximum speed of the Bf-109 F-4 reached 620 km / h, the speed near the ground - 535 km / h. This meant that the new Messerschmitt was faster than the best modifications of the I-16 (type 24 with the M-63 engine) by 100–140 km/h. (30–40 m/sec) over the entire range of combat use altitudes. Such superiority in speed allowed the German pilot to impose a fight and / or leave it at his own discretion in almost any situation. The once clear technical superiority of Soviet fighters is a thing of the past. In August 1939, a few days before the start of the World

War, the first bombers entered the combat units of the Luftwaffe.

"Junker" Ju-88A. Until the end of the year, the industry produced only 110 of these machines, but already in the next year, 1940, the production of Ju 88 increased to 2184 units. And if on May 10, 1940, Ju-88s accounted for only 15% of the total number of Luftwaffe bombers, then by June 22, 1941, aircraft of this type accounted for 58% of the total number of bomber groups deployed near the borders of the USSR.

At the time of its creation, the Ju-88 was, without a doubt, the best front-line twin-engine bomber in the world. The Junker was superior to its competitors in the main thing for which an attack aircraft is being created - in the number and variety of bomb armament options, in the ability to drop these bombs (though not all, but only the external suspension) from a dive. The undoubted advantages of the Ju 88 should also include duplication of oil and gas systems and control wiring, automation of aircraft and engine control, unique for its time. So, all operations related to the entry and exit from a dive were automated; when climbing, the afterburner mode of operation of the motors was automatically turned on and off, after reaching a certain height, the 2nd speed of the supercharger was automatically turned on, etc. All this allowed the pilot to focus his attention on the combat mission without being distracted by many routine operations.

Thus, having resolutely mobilized its considerable material and intellectual resources, the aviation industry of the most developed countries of the West over the course of 3-4 years (1937-1940) caught up with and surpassed the Soviet aviation industry in the technical parameters of combat aircraft produced and significantly reduced the backlog in

quantitative indicators.

Second The reason for the crisis in the states Soviet aviation industry was that, in the context of a furious arms race and the World War that began in September 1939, the West stopped so frivolously and generously sharing the latest aviation technologies with Stalin. The possibilities of military-technical cooperation with France were reduced to zero after the conclusion of the Molotov-Ribbentrop pact; then France itself disappeared as a real sovereign power (formally, the Vichy regime continued to maintain diplomatic relations with Moscow until June 1941). In England, on May 10, 1940, a government came to power

Churchill, who treated the USSR, to put it mildly, with deep distrust. Even a great friend of Stalin, US President F.D. Roosevelt was forced in December 1939, after the Soviet bombing of Helsinki, to extend the "moral embargo" regime to the USSR[35] .

The only "ray of light" in this gloomy picture was the sharply intensified military-technical cooperation with Germany. Soviet purchasing and reconnaissance delegations (the first of which consisted of 48 people!) Traveled to Germany three times (in October 1939, March and November 1940) and, along with dozens of other types of modern weapons, selected 36 aircraft of 12 different types for purchase. At the same time, they demanded from the Germans that “aircraft and other weapons be supplied with all the instruments, exactly in the form in which the German army receives,” and without a shadow of embarrassment they told Goering that “we do not want to cover the current needs of the Red Army with these aircraft, but we take them as samples for familiarization

with German technology. (35) Among these aircraft were the Messerschmitt Bf-109 series E, and the Junker Ju-88, and, consequently, the engines installed on them, automatic dives, a direct fuel injection system, and much more. In addition to the most valuable "samples for review", the Soviet industry received thousands of units of technological equipment purchased in Germany, including heavy-duty presses and high-precision metalworking machines. Without this, very timely reinforcement, the state of affairs in the Soviet aviation industry in the early 40s would have

been even worse. At the time of its creation, the Ju-88 was without a doubt the best front-line twin-engine bomber in the world. The Junker was superior to its competitors in the main thing for which an attack aircraft is being created - in the number and variety of bomb armament options, in the ability to drop these bombs (though not all, but only the external suspension) from a dive. The undoubted advantages of the Ju 88 should also include duplication of oil and gas systems and control wiring, automation of aircraft and engine control, unique for its time. So, all operations related to the entry and exit from a dive were automated; when climbing, the afterburner mode was automatically turned on and off

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and rigging.

"Where it is thin, there it breaks." The sharp reduction in technological "recharge" from the West immediately affected that component of the aircraft industry complex, which was most dependent on licensed technologies - engine building. As if charmed, one after another "refused to work" all the new motors that they tried to launch into mass production at the turn of the 30s and 40s. Neither the M-106 and M-107 (the next forced modifications of the Hispano-Suiza), nor the M-89 (the forced Mistral Major), nor the AM-37 (the forced version of the Mikulin AM-35), nor the M-40f aviation diesel engines and the M-30 never managed to be brought to a level that allows them to be installed on a serial combat aircraft.

Moreover, all attempts to create a powerful “two-thousander” (an 18-cylinder engine with a capacity of about 2000 l / s) turned out to be fruitless. Neither the M-71 ("double star", composed of two seemingly mastered and reliable M-63 engines), nor the M-120 (three blocks of 6 cylinders from the M-105, placed in the form of an inverted Y), nor similar in layout Mikulinsky AM-36, nor the M-90 ("double star" based on the twin French "Gnome-Ron" 9K) could not be brought to a working state - right up to the very end of the war! [38] Lack of a new powerful engine "put an end" to the creation of a number of promising combat aircraft (a short list of which would take another page). Worse, big problems began with the mass production and operation of engines already adopted for service. On the M-105,

the exhaust valves burned out, the main ones cracked

crankshaft bearings; the engine overheated, smoked, “driven oil”; new fighters returned from flight, covered in black "debriefing" from nose to keel. The situation with the production of the M-88 was very bad. Due to a series of defects identified in combat units, on August 6, 1940, mass production of the M-88 engine was ordered to be stopped. Only on November 13, 1940, after repeated 100-hour state tests, the Zaporozhye plant No. 29 was allowed to resume the serial production of these engines. Interruptions in the supply of the M-88 not only affected the production of DB-Zf bombers, but also disrupted the launch of the new Polikarpov I-180 fighter into mass production, slowed down the testing and development of at least two more models of new fighters.

Serious "time bombs" were incorporated into the design of the AM-35A engine (launched into serial production in the fall of 1940). Let's start with the fact that Mikulin Design Bureau, unable to cope with the development of a 2-speed supercharger (which was provided for by the terms of reference), put a single-speed supercharger on the engine, optimized for an operating height of 6 km. The result was a powerful "high-altitude" motor with very mediocre (power 1120 l / s with a dead weight of 830 kg!) Characteristics when working near the ground. This "backfired" in the very first weeks of the war, when it became obvious that almost all air battles take place at low and medium altitudes, no higher than 2-3 km. The main trouble was that the AM-35A did not provide its mediocre characteristics in every flight. The engine suddenly "cut off" (spontaneously

turned off) both at high and low altitudes - especially when trying to give "harsh gas"; there were cases of emergency destruction of the supercharger; in 6% of engines produced in 1940, the cast cylinder heads were destroyed. Things got to the point that in March 1941 all flights of aircraft (serial and experimental) with AM-35A engines were banned. On an emergency basis (a group of designers in the truest sense of the word was locked in the design bureau room), it was possible to develop a new mechanical drive for the inlet guide vanes of the supercharger; engine stops during abrupt operation of the gas sector almost stopped, but the engine still did not work very reliably: oil pressure dropped, exhaust pipes burned out,

spark plugs had to be changed every 5–6 sorties. The failure to develop the AM-35A / AM-37 engines led to the actual curtailment of the serial production of two promising bombers: the heavy TB-7 (Pe-8) and the long-range twin-engine Yer-2. Everything that happened in the

Soviet aircraft engine industry at the turn of the 1930s and 1940s was not accidental. In fact, the requirements of high technology (and the aircraft engine was probably the most complex technical device of that time) entered into an insurmountable contradiction with the level of education and professional training of yesterday's peasants who became workers; with the general level of administrative and technological culture of industry, created in an atmosphere of insane "hands-on" and "storming" of the first five-year plans. The rapid rise, provided earlier by the use of Western licensed technologies, naturally turned into a lag in the development of the material and personnel base for carrying out our own research and development work.

1.3. Discours de la methode [39]

A crisis is not a catastrophe. A crisis is an inevitable and necessary stage in the development of every complex system. The Soviet aviation industry could emerge from the crisis of the early 1940s, becoming even more mature and powerful. Of course, such a variant of overcoming the crisis required enormous efforts, primarily intellectual ones. The top leadership of the state, the Armed Forces and industry had to find the right answer to a number of difficult questions in a short time: - is

it possible to significantly increase the performance characteristics of manufactured aircraft while simultaneously increasing aircraft

production? - if it is impossible to solve these two tasks simultaneously, then which of the two directions of

development should be given preference? - how to redistribute the available resources (material, financial, production, human); what is the "direction of the main blow", and what should be postponed for the

future? If not a solution, then at least an adequate understanding of these issues required, in turn, a clear understanding of the fact that:

- an increase in the production of aircraft (unlike stools) cannot be achieved only by increasing production areas and the number of employed people; we also need more and more complex technological equipment, continuous advanced training of workers, and modern construction materials in ever-increasing quantities;

- all of the above, but on a much larger scale, will be required to create aircraft and aircraft engines of the next, more advanced generation;

- in a situation where one cannot count on help from abroad, the most scarce resource, limiting the rate of development of the entire system, is qualified personnel; just as "nine pregnant women won't have a baby in one month," 10 universities can't turn a freshman into a qualified aircraft designer in one year, or

technologist; already existing, having achieved certain results, having accumulated experience of successes and failures, scientific research and design teams are a precious asset of the country.

For purely technical problems,

to understand that:

- everything that “lay on the ground” has already been found; there will be no "inventions" in the aircraft industry of the middle of the 20th century; every slightest improvement in flight parameters will require a huge painstaking work of large teams of scientists and designers;

— the level of development of fundamental science does not yet allow one to theoretically determine, calculate, predict many phenomena and processes, in particular, those related to stability, controllability, aeroelastic oscillations, etc.; under such conditions, the development of any new aircraft is fraught with great risk, and the modernization of existing models becomes the most reliable and fastest way to achieve some improvement in performance characteristics;

- the possibilities for improving the aerodynamics of a subsonic aircraft are almost exhausted; even the smallest (by 5-10%) improvement will require a significant complication of the design and an increase in the cost of production;

- the last reserve for a significant improvement in flight performance is the engine; in the short term - bringing the parameters of piston engines to the possible technical limit; in the medium term - the transition to the use of rocket and air-breathing engines;

- any possible increase in the specific power of the engine leads to an increase in thermal loads, respectively, it will require new heat-resistant steels, the development of new technologies for their machining and surface hardening; - the most

effective methods for boosting piston aircraft engines (increasing the degree of compression and boost) will inevitably require the use of fuel with high anti-knock properties (high-octane gasoline); without mastering the mass production of such fuel, any efforts to improve engines will remain practically fruitless;

- aircraft flight parameters are only one of many components that form the performance characteristics of the aircraft armament complex; significant untapped reserves are in the field of improving airborne weapons, control systems, aiming, navigation and radio communications;

- combat operations are conducted not by planes, but by military aviation; its components such as airfield equipment, aircraft maintenance, diagnostics and repair systems, meteorological service, radio navigation and radar detection facilities are at least as important as the performance characteristics of used combat
aircraft.

"Everyone is strong in hindsight." From the height of today's knowledge, having information about the difficult and expensive experience of the war paid for, it is not so difficult to outline in general terms those optimal decisions that should have been taken at the turn of the 1930s and 1940s.

First of all, it was necessary to firmly and with "open eyes" admit that Soviet aircraft would not fly "higher than all, farther than all and faster than all." It was impossible to overcome the backlog of the Soviet aircraft engine industry in the time frame dictated by the inexorably approaching war with Germany, and without the best engines in the world, there was nothing to dream of aircraft with record flight characteristics. In other words, it was necessary to abandon those basic principles ("in quantitative terms, not to be inferior to a potential enemy, but at the same time to ensure a qualitative superiority in technology"), which were defined in 1932, and in the field of aviation to set a fundamentally different task:

- maintain (if possible - increase) what has been achieved
quantitative superiority over the enemy;

- with the maximum development and improvement of aviation infrastructure (airfields, high-octane gasoline, maintenance systems, radio communications and radio navigation);

- and maintaining the performance characteristics of combat aircraft at an acceptable average ("average" in relation to the best world samples!) level.

This is by no means an easy task, but its solution was within the realm of possibility. An alternative solution ("a small number of the best aircraft in the world") was at that time

unattainable. Moreover, the war convincingly proved that no qualitative superiority in aircraft can compensate for the superiority of the enemy in numbers. The pursuit of record heights and speeds could amuse the pride of designers and politicians, but all this advertising tinsel had very little effect on the outcome of air battles. This far from trivial result has rather simple explanations. We just need to get rid of the notions (inspired by the game of computer "flying shooters") about the war in the air as some kind of Formula 1 racing or noble duel. The duel began with the fact that the parties agreed on the exact time and place of the duel. Nothing like this happens

in war. Enemy bombers arrive without warning. In 1941–1942 on the Eastern Front, none of the opposing sides had early radar detection systems in service with front-line aviation (the British were able to build their air defense using bulky meter-range radar antenna systems only because the English Channel ensured the absolute immobility of the "front line"). However, even if there were radars, the low speed and rate of climb (5 km in 5 minutes for the best ones) of the piston fighters of the 40s did not allow providing reliable cover for ground troops in the “call departure” mode. The only real way to counter enemy aircraft remained a very costly, "primitive" patrol in the air. Then it all comes down to very simple arithmetic. One fighter during the day could practically stay in the patrol zone for no more than 2-3 hours. Moreover, such a duration of “direct participation” corresponds to very intensive use (4-5 sorties per day), taking into account the time required for take-off, climb, flight from the airfield to the zone and back.

And this means that even the best Messerschmitt spent the rest of the 10-15 hours of daylight on the ground and could not interfere with the Soviet bombers. On the other hand, two links, six "hopelessly outdated" I-16s, could provide cover for their own troops throughout the daylight hours. Even minimal impact on enemy bombers,

which could be provided by a single fighter (I hope the reader understands that we are discussing a purely conditional situation) is better than the absolute zero provided by an ultra-modern aircraft standing on the ground 100 km from the place of air combat.

Even more obvious is the "dialectic of quantity and quality" in relation to the bomber aircraft of the early (in this case, this is an important clarification) of the 40s. The bomber of the initial period of the Second World War was an ordinary “bomb carrier” that moved a certain amount of explosives from point A to point B. Without a doubt, 500 light and already fairly outdated SBs could drop many more bombs on enemy positions than 100 of the most modern Junkers ". The difference in the duration of the impact should also be taken into account (in a number of tactical situations this was no less important than the total tonnage of the bombs dropped). One bomber could bomb a pontoon crossing once or twice a day. The remaining 23.5 hours the enemy could spend on repairing damage and crossing troops. A squadron of bombers could keep the enemy under fire throughout the daylight hours. Finally, for anti-aircraft artillery, the destruction of five hundred targets was an incomparably more difficult task than a hundred. In addition to these purely abstract schemes and reasoning

Let's take a few very specific examples. From July 15 to

September 21, 1941, the 123rd IAP (fighter aviation regiment) fought as part of the 6th Air Defense Air Corps of Moscow. Completed 480 sorties. Then the regiment was transferred to the 7th air defense corps of Leningrad and from October 1941 covered the "road of life" from the air. In total, from the beginning of the war until January 25, 1942, ZOYA flew sorties with a total flying time of 2431 hours; in air battles lost ... 17 (seventeen) aircraft.[40] One plane shot down in air combat for 177 sorties! Perhaps the best German aces were shot down even more often ...

Here it must be clarified that the 123rd IAP is not a simple regiment. This is one of the best, which later became the 27th Guards, and he flew the Yak-1 fighter, which in terms of its performance characteristics was not inferior to the "Messer" of the 39th year (series E). But here is the report of the 17th IAP. This regiment, if known for anything, is "infamous" for the defe

in the early days of the war (we will discuss this below). From January to October 1942 the regiment fought on the Bryansk front. He fought on LaGG-3 aircraft, the very ones that the soldier's rumor baptized into a "lacquered guaranteed coffin." During the specified period of time, the regiment completed 1258 sorties, while losing (for all reasons, mind you, and not just in air battles) 12 aircraft.[41] One hundred sorties for one loss is an excellent indicator of combat survivability! Magnificent, but not a record. It

happens even better. The 135th BAP was armed with Su-2 light bombers. This formally "new type of aircraft" - with low speed, one engine and weak defensive weapons - was discontinued already in the middle of 1942. On the Western Front, regiments armed with Su-2s burned out in the first two weeks of the war. From September 25 to November 1, 1941, the 135th BAP carried out 630 sorties on the Southern Front without a single loss ! one downed aircraft. The answer to all three "riddles" is the same - the Germans were mistaken. They made a mistake in the most important thing - in determining the strategy for the

development of military aviation. They designed and perfected magnificent combat aircraft; trained aces pilots, the best of which shot down hundreds of enemy aircraft. But these wonderful fighters on the Eastern Front, with a length (in different periods) from 1.5 to 3.5 thousand km, were so few that entire regiments of Soviet bombers could not meet a single German fighter in the air in a month of combat work ... Maintaining and increasing quantitative superiority over a potential adversary required, first of all, the elimination of "bottlenecks" that limit the development of the entire system (training qualified personnel, increasing

the production of aluminum, high-strength and heat-resistant steels, high-octane gasoline); putting things in order and improving technologies at existing plants. Let us explain the latter with one specific example related to the work of aircraft engine plant No. 19.

For the nine months of 1938, for 2600 delivered motors, there were 116 cases of jamming of the bushings of the main connecting rod of the motors, in addition, there were at least 100 cases of jamming on

aircraft factories and in operation. Of the motors sent to aircraft factories, 533 were returned as unusable, while, as noted in the corresponding memorandum, “the motors were for several months without proper care, they were corroded, as a result of which they had to be completely sorted out, cleaned, partially change parts, replace the bushings of the main connecting rod on some and present it to the military representative again. In addition, 345 motors that had not yet been shipped from the factory had to be re-engineered to replace the fingers. On October 1, 1938, out of 632 new motors not delivered, there were 239 returned for overhaul.[43] If we add to all this the transportation costs associated with the transportation back and forth of substandard

motors, it becomes clear that only the establishment of proper technological discipline (the task, alas, is very difficult, given that the root cause of the marriage was the same low level of education and qualifications of workers) made it possible to increase the production of motors in a volume comparable to the construction of another plant!

Maintaining the performance characteristics of combat aircraft at an acceptable-average level was quite achievable through further comprehensive modernization of existing aircraft models that have been tested in production and operation. The main thing in this long phrase should be considered the word "comprehensive". Without denying, of course, the significance of the flight parameters of a combat aircraft, one should still remember that the pilot on this aircraft had to fight, and not compete in “races” or “high jumps”. The history of aviation knows many examples of how an aircraft with very mediocre flight parameters turned out to be a very effective weapon system. Here we can recall the German Ju-87 diving "lappet" and the Soviet jet MiG-17, which quite successfully resisted the American "phantoms" in the sky of Vietnam, theoretically twice its speed. In this case, it would be most appropriate to cite the American fighter R-39 Airacobra as an example.

In 1941, the Airacobra of the first major D series, in terms of its altitude and speed characteristics, exactly matched

our "varnished coffin" LaGG-3. In 1943–1944 even the best modification of the "cobra" (P-39 Q) was inferior in speed and horizontal maneuverability to the best Soviet and German fighters (Yak-3, La-7, Bf-109 G-10, FW-190 A-8), and in terms of rate of climb inferior to everyone without exception (according to this parameter, the heavy "cobra" probably went beyond the "acceptably average"). Nevertheless, Soviet pilots fell in love with this aircraft, and it is almost impossible to find negative reviews about it in the memoirs of pilots who survived the war. "Aircobra" in large quantities (4952 units) entered service with the Soviet Air Force and fought on all fronts without exception. Such famous aces as Pokryshkin, Rechkalov, Golubev, Glinka, Gulaev flew on the Aerocobra ... It is believed that 15 of the best Soviet pilots shot down more than 500 German aircraft on the Cobras. From Pokryshkin’s memoirs, it is known that he was offered to transfer himself and re-equip his division with any of the best Soviet fighters (we repeat once again - superior to the “cobra” on the “tablet” with numbers of speeds and altitudes), but the highly experienced ace refused.

The secret of the Cobra's success has quite rational explanations. The task of the fighter is to exterminate, and the Airacobra had exceptionally powerful weapons: a 37 mm “tank” caliber cannon and 2 large-caliber (12.7 mm) machine guns in the forward fuselage, two 12.7 mm or four 7.7 -mm machine gun on the wings. The armament of the "cobra" was even redundant - the wing machine guns were often dismantled, since one central armament was enough to literally "break into pieces" a German fighter. The motor, propeller gearbox, pilot, oxygen system cylinders were reliably protected by armor plates and bulletproof glass - it was for powerful weapons and armor protection that the heavy weight of the structure was paid (2561 kg against, for example, 2123 kg for the Yak-3). The layout of the aircraft provided excellent (better than any of the serial competitors) forward and downward visibility; the radio station installed on the "cobra" made an indelible impression on the Soviet pilots ("like talking on a city phone"). Finally, the "cobra" was not as dangerous for the pilot as the Soviet fighters: it (unlike

the "yaks" and "laggs") did not

sheets of cladding of a glued wooden wing were torn off in flight; two (!) “automobile-type” doors were dropped in flight, providing the pilot with the opportunity to leave the burning plane - while the sliding canopy on Soviet fighters often jammed at the most inopportune moment; the layout of the aircraft with a nose landing gear made it almost impossible to “bonnet” (flip the aircraft “over the nose onto its back” during an unsuccessful landing), which killed a huge number of aircraft and pilots, but the designers of the Bell company did not calm down on this and installed a powerful anti-bonnet frame. These "little things", invisible behind the performance characteristics figures in the standard brief description, turned the aircraft with far from record-breaking flight characteristics into one of the best front-line fighters. Second World War. The Soviet aviation industry

of the early 40s, of course, could produce, and in a large series, the "Soviet aerocobra" - I mean not the similarity of appearance and technical solutions, but the fundamental approach to the creation of a "not well-tailored, but tightly sewn" combat aircraft. All (or almost all) of the key components were already in stock. The basis of the fundamentals is the engine. The American "Allison" (Allison) V-1710-35 could be considered nothing more than a "strong average" - both in absolute and in terms of power density it was equal to our M-105 (the problem of the latter, as already noted above, remained poor quality manufacturing, reliability and resource, but not the "output parameters" themselves as such). There was nothing new and unusual in the wing

of an all-metal structure for the Soviet aviation industry - it was precisely such a wing that all our bombers had to a single one, including the light Su-2; even in the "hopelessly outdated" I-16, the wing was a metal frame, sheathed with duralumin sheet in the center section area and canvas - on the consoles. In the same way, with regard to light and durable aviation armor and the technology for manufacturing double-curvature panels from it, the Soviet industry was ahead of the rest - it was these technologies that made it possible to create and produce the Il-2 armored attack aircraft in a giant series.

The achievements of Soviet gunsmiths were just as obvious and significant. In April 1939, a 12.7-mm machine gun designed by M.E. was put into mass production. Berezina (BS, UBS). For such

In terms of the most important parameters, such as rate of fire, muzzle velocity and bullet energy, the UBS was significantly superior to its main competitors (the American Colt-Browning M-3 and the German MG 131). The Soviet 20-mm ShVAK cannon, generally equal in terms of performance characteristics to the German MG-151 mounted on the "Messers" of the F series, was put into mass production much earlier - back in 1936; starting from 1937, it was installed on serial I-16 fighters of four modifications. In August 1941, factory tests of the 37 mm NS-37 air gun began, this gun was twice as fast as the American 37 mm M-4 in terms of rate of fire, and two and a half times in terms of initial projectile

energy. Not everything is so hopeless, as it seems to readers of too popular books, it was with the equipment of Soviet fighters with radio communications. At the turn of the 1930s and 1940s, the second generation of the corresponding radio stations (RSI-3 and RSI-4; the latter differed mainly in the power source) was already launched into mass production. In 1940, the RSI-3 was installed on serial I-16s (type 24, type 28). The transmit/receive frequencies were stabilized by choosing a quartz resonator for one of 10 (or 30) fixed frequencies. Theoretically, the radio station provided telephone communication at a distance of up to 150 km, but in practice, the range of reliable reception did not exceed 40-50 km. The main problem was the interference created by the poor shielding of the spark ignition system of the engine. Of course, these radio devices were still far from the level of “like a city phone”, but more or less stable communication between the aircraft in the group (and in some situations with the ground command post) RSI-Z / RSI-4 could well provide. Far from resorting to the

arguments and methods of the so-called. "alternative history", one can also indicate quite specific types of combat aircraft that could be developed and put into mass production in the early 40s. These are: - the Polikarpov I-180

fighter (deep

modernization of the I-16 by installing a new engine - the “double star” M-88). The I-180, in terms of the entire set of performance characteristics, was generally not inferior to the Messer Bf 109E, which by the standards of 1940-1941. well met the criteria

"acceptable-medium". With the M-89 engine (in July 1941, such an engine with a direct fuel injection system on bench tests showed a power of 1560 l / s), the flight characteristics of the I-180 could reach or even surpass the performance characteristics of the best Messerschmitt Bf-109F at that time . ([44] , [45])

On May 1, 1939, a prototype I-180 took part in an air parade over Red Square. In the spring of 1940 (it is impossible to give an exact date, since decisions to launch the I-180 into a series were made and not carried out at least 6 times!) The new fighter was ready to be launched into mass production at the Gorky aircraft plant No. 21 (the main manufacturer of I -16). Considering that the aircraft was structurally very close to the I-16 (the tail section of the fuselage, vertical and horizontal tail surfaces were completely identical), significant problems with the mass production of the I-180 were not to be expected.

Ar-2 light front-line bomber (another modification of the SB, the most massive bomber of the Soviet Air Force in the 1930s). The pointed nose of the fuselage, aerodynamically “clean” engine nacelles (flat cooling radiators were moved under the wing), the upper machine gun turret recessed into the fuselage changed the appearance of the veteran of the Spanish and Finnish wars beyond recognition. The aircraft was equipped with a complete set of equipment for dive bombing (automatic withdrawal from a dive, brake grids, a special bomb rack).

In terms of its altitude and speed characteristics, the new Soviet bomber surpassed the Junkers Ju-88 A5, which was the best at that time (no doubt inferior to the latter in terms of the load range parameter, since the Ar-2 was 1.5 times lighter than the Junkers)). The state test report stated that "the flight properties of the Ar-2 aircraft are similar to those of the SB aircraft, and the control of the aircraft is even easier." The first 70 serial Ar-2s were produced at the end of 1940. The plan for retraining the flight personnel of the Red Army Air Force, signed on February 19, 1941, provided that 11 bomber regiments re-equipped on the Ar-2 were to complete their studies by May 1, 1941. [46]

Medium bomber DB-3. The aircraft was in mass production from January 1937 and was continuously modified; problems with the M-88 engines, as we noted above, by November 1940 were basically resolved. In terms of its altitude and speed characteristics, the allegedly “hopelessly outdated” DB-Zf was not inferior to the very English Lancaster (launched into mass production at the end of 1941), on which the Royal Air Force fought until the very end of World War II, mercilessly destroying dozens of cities in Germany. In the case of the successful completion of the development of the M-89 engine, the flight parameters of the DB-Zf could go far beyond the "acceptably average" category. The aircraft needed and could be modernized in the

direction of strengthening defensive weapons, improving the system of passive protection (protection of gas tanks, neutral gas systems, booking weak spots), updating sighting and navigation and radio equipment. In other words, already in 1940-1941. it was necessary to do exactly what was implemented in the DB-Zf (IL-4) bombers of the 1942 release

The I-180 fighter, the Ar-2 dive bombers, the Il-4 medium bomber, all this is a “tit in the hand”, a minimum program, a program for the modernization of existing production models, the possibility of which is beyond doubt. The performance characteristics of this "troika" certainly corresponded to the average level (and in a number of positions exceeded it) of the flight parameters of combat aircraft of the early 40s. According to the calculations of A. G. Rotenberg (head of the sector in the Prolikarpov Design Bureau), by the beginning of the Great Patriotic War, the Soviet aviation industry could produce at least 3 thousand I-180 fighters, which made it possible to re-equip most of the fighter regiments of the Air Force of the western districts. At the same time, it was necessary to prepare ahead of time for the commissioning of a new generation of combat aircraft, that is, to think about the "pie in the sky." And in this case, we can name two very specific projects

In March 1940, at the Tupolev Design Bureau (although it was then called quite differently), the design of the medium front-line bomber "Product 103", also known as ANT-58 or Tu-2, began. The new aircraft made its first flight on January 29, 1941, in May - July 1941.

flight tests of the DNT-58 with two AM-37 engines were completed, and with phenomenal results. It was that very rare case in the history of aviation when a combat aircraft surpassed its foreign competitors in all parameters without exception. The most powerful weapons: up to 3 tons of bombs, including heavy FAB-1000, and the entire bomb load, both internal and external, could be dropped from a dive; 10 rockets of 132 mm caliber (the same ones that were launched from ground-mounted installations BM-13 "Katyusha"), two 20-mm cannons and 2-4 rapid-fire machine guns. The plane flew steadily with one idle engine (when testing the ANT-58, it flew from Omsk to Moscow on one engine!), It was equipped with all known passive protection systems. At high altitude (7.8 km), the ANT-58 reached a speed of 610 km/h (compared to 467 km/h for the best modification of the Junkers Ju-88 A-4) and by this criterion

was not inferior to most of its contemporary fighters.[47] In the summer of 1941, a bomber with such parameters did not exist on paper, not in drawings, not on a ground test bench - it flew and successfully passed state tests. In real history, as we know, it was not possible to “bring to mind” the AM-37 high-altitude engine. It is difficult to say how inevitable this result was. In any case, the air cooling radiator at the outlet of the supercharger (without this device it was impossible to implement a powerful boost), which distinguished this engine from the serial AM-35A, can hardly be called a product of such “high technologies” that were in principle inaccessible to the Soviet aviation industry. Be that as it may, already on December 15, 1941, the ANT-58 made its first flight with M-82 air-cooled engines. The flight parameters were significantly reduced (for example, the maximum speed was “only” 528 km / h), but even in this version the bomber outperformed any competitors. In 1943, after the very “raw” and unreliable M-82 turned into a forced direct-injection ASh-82FN, the Tu-2 rightfully took the place of the best front-line bomber

of World War II. The plane, which first took to the skies in January 1941, was in service with the Soviet Air Force until 1955 (!); in 1947, the first Soviet Tu-12 jet bomber was built on the basis o

In many ways, the history of the creation of the Polikarpov I-185 fighter began in a similar way. Design work began in January 1940, and in the spring of 1941 flight tests began. Outwardly, the new fighter was almost indistinguishable from the I-180, but according to the design solutions laid down in it, the I-185 was ahead of its time by several years. With a takeoff weight one and a half times greater, the new fighter had a wing area smaller than that of the I-180. The choice of such parameters meant a radical change of priorities. It was a fighter of a fundamentally new type - high-speed, optimized for dynamic vertical maneuver, with a solid all-metal structure and powerful armament (three 20 mm caliber guns). “Thanks to an exceptionally successful combination of shapes, dimensions, excellent wing mechanization and a successful layout, the aircraft has very high speeds and rate of climb, good maneuverability and comparative simplicity in piloting technique,” wrote the most experienced test pilot Stefanovsky in

the I-185 test report at the Air Force Research Institute. . ([48]) The first blow to the I-185 project was caused by the engine, more precisely, its absence. Powerful 18-cylinder "double stars" (Zaporozhye M-90 and Perm M-71) were never brought to mass production. In this situation, Polikarpov (just like Tupolev) turned to the only powerful M-82 engine at that time. But this 14-cylinder "double star" was still quite "raw", and the engine power in comparison with the M-71 was significantly lower (1650 l / s versus 2000 l / s in takeoff mode, 1330 l / s versus 1625 l /s at the height of switching on the 2nd speed of the supercharger). However, state tests “completed in March 1942 showed that even with the M-82 engine, the Polikarpov fighter surpassed all domestic fighters in terms of altitude and speed and was in no way inferior to the best at that time modification of the Messer (Bf-109 G- 2), significantly surpassing the latter in terms of weapon power. Nevertheless, the launch

1.4. Destructive overhaul

At the beginning of the 2nd paragraph of this chapter, we promised to consider the subjective causes of the crisis in the Soviet aircraft industry. And these reasons were very weighty. Based on the typical timeframe for the development of a combat aircraft for that era, we can say that in 1940–1941. aircraft, the design of which began in 1937-1938, would have to go into serial production and into service with the Air Force. But it was these two years that turned out to be special for the Soviet Union, remembered for a long time.

My readers know that I am by no means inclined to exaggerate the devastating consequences of the bloody "purge" of 1937. Leaving aside all considerations of morality and humanism, I am even ready to largely agree with the opinion of those historians who argue that mass arrests and executions led to the replacement of morally decomposed, illiterate and heavily drinking party and military officials of the notorious "Leninist guard" by a new generation of young people. , energetic, sufficiently educated, ambitious careerists. It is possible that their arrival in state and administrative structures has increased the quality and implementation of managerial decisions. Perhaps, in the conditions of the insane Stalinist system, devoid of normal mechanisms of economic self-regulation, it was precisely such “nominees”, capable of pounding the table with their fists for 18 hours a day, that were needed. But in the high art of aircraft design, such methods and such “frames” could bring

nothing but a catastrophic collapse. By the summer of 1938, the Chekists had managed to defeat the best design teams, arrest almost the entire color of Soviet aviation thought: Tupolev, Yeger, Petlyakov, Myasishchev, Korolev, Glushko, Chizhevsky, Bartini, Putilov, Stechkin, Neman ... The management of the design bureau was arrested in almost full strength Perm Aircraft Engine Plant. The Chekists especially liked aircraft engine plant No. 29 in Zaporozhye (the line of the French Gnome Ron) - five chief designers changed there in three years: Nazarov, Vladimirov, Filin, Tumansky, Urmin. In the prison

Sharashka created his own unique aviation turbodiesel Charomsky ... And these are those who are lucky. They were arrested but not killed. Unfortunately, not everyone is lucky. Only in 1938 were shot: the head of TsAGI Kharlamov, the head of the Air Force Research Institute, brigade commander Bazhanov, the head of the Main Directorate of the Civil Air Fleet Tkachev, the oldest aircraft designer, the creator of aircraft of the "flying wing" type Kalinin, the developers of solid-propellant rockets Langemak and Kleimenov ...

Coming to the post of head of the NKVD, Comrade Beria worked to strengthen the engineering and design asset at his disposal. 11) January 1939, the "Special Technical Bureau" (OTB) was created in the structure of the NKVD. "Beria fraudulently achieved before the authority ("the authority" is Stalin, but the authors of the memorandum filed in the name of Khrushchev on February 23, 1955 are still afraid to pronounce his name) to condemn 307 aviation specialists in absentia for various terms, indicating that the consideration of these affairs in the usual manner (i.e., arrest, torture cellar, meeting of the "troika". - M.S.) is inappropriate, because this will tear specialists away from their work ... "They had to work behind bars and under escort, in isolation from colleagues, relatives and friends; for a "carrot" in the form of 20 grams of butter or a place on the bunk next to the stove and in anticipation of a "stick", that is, a possible sending to the taiga logging for any, real or fictional, offense. It must be assumed that if the German engineers at that time were told that their Soviet competitors were considering new designs on prison bunk beds, in the intervals between interrogations "with prejudice" and in anticipation of a death sentence, then they would have considered such a story as excessively unbridled anti-communist propaganda ... " Comrade Stalin is being

deceived. This phrase, like a spell, was uttered by thousands of innocent victims of terror. In the modern reader, it causes only a bitter smile, but in vain. In this particular case, Comrade Stalin was indeed deceived. More precisely, they systematically deceived for a long time. The General Staff, intelligence, industry leaders bombarded Comrade Stalin with messages with absolutely enchanting numbers of aircraft production and the strength of the Air Force of potential opponents of the Soviet Union. According to

expressed by historians M.Yu. Mukhin (please do not confuse him with the infamous forger Yu.I. Mukhin) and A.S. Stepanov, the report of I.F. Petrov. ([49] , [50]) Major General I.F. Petrov held a variety of leadership positions (deputy chief,

then head of the Air Force Research Institute, Research Institute of the Civil Air Fleet, TsAGI, member of the Military Council of the Red Army Air Force), but his main title was "a person who is well received by the Master." Back in 1936, he traveled abroad to get acquainted with the largest scientific centers in France, England and the USA, and in 1939-1940. Petrov visited Germany twice as part of the Soviet reconnaissance-purchasing commission. Upon returning from Germany, in June 1940, I.F. Petrov stunned Stalin with the message that, taking into account the industrial capacities of the occupied Czech Republic and France, the Germans could produce 70-80 aircraft per day (i.e., about 27 thousand annually). In comparison with reality, these figures were overestimated by 3 times, but if we take into account the production of only combat aircraft, then by 4.5 times. In parentheses, we note that at least until the end of the 90s, "Petrov's figures" were used without the slightest comment or embarrassment in many domestic publications. The

leaders of the military department did not lag behind. In a special message. The Intelligence Directorate of the General Staff of the Spacecraft No. 660279 dated March 11, 1941 stated that “the production capacity of the German aviation industry is currently determined by the production of 25,000-30,000 aircraft and about 45,000-50,000 engines per year. In addition, at present, all aircraft factories located in the territories of France, Belgium and Holland occupied by the Germans are gradually being included in the production of combat aircraft, and at their expense, the production of aircraft in Germany can be significantly increased.[51] The same Special Report stated that over the past six months the strength of the German Air Force had doubled to 20,700 aircraft, including 10,980 combat aircraft.

It is noteworthy that the General Staff was ahead of its Intelligence Directorate. Back in August 1940, in a well-known memorandum "On the Fundamentals of the Strategic Deployment of the Armed Forces of the USSR," Timoshenko and Shaposhnikov informed Stalin that

Germany can deploy up to 12,000 aircraft near the borders of the USSR, and together with its allies (Hungary, Romania, Finland) - 13,900 aircraft.[52] A month later, on September 18, 1940, in a memorandum of the same name and content, the last figure increased to 15,100 aircraft, and in the event of a "war on two fronts" (i.e., taking into account Japan) "the USSR must reckon with the possibility of concentrating on its borders… 18,000 aircraft."[53] What was it? Where did these outrageous numbers come from? And this despite the fact that the only (at least the only known, "revealed" to the public) source of Soviet intelligence at the headquarters of the Luftwaffe - "Sergeant", i.e. Oberleutnant

Schulze Boysen - transmitted quite reliable information. So, on April 17, 1941, he reported that, "according to last year's data, German aviation had the following number of first-line aircraft: 1000 bombers (as in the text. - M.S.), 250 dive bombers, 1200 fighters ... this figure may maybe only slightly increased this year; the German aviation industry only makes up for losses by maintaining the number of first-line aircraft at the same above-mentioned level. The reaction of a representative of Soviet intelligence (it was A.M. Korotkov) is interesting - he immediately questions "such low" figures: "When asked again about the correctness of such low figures," Starshina "confirmed a relatively small number of first-line aircraft."[54] Contemporary authors have put forward various hypotheses to explain the obsessive self-deception of the Soviet leadership. In my opinion, this "mystery" has two quite obvious answers. The systematic overestimation of the capabilities of a potential adversary was inevitably embedded in the very system of lethal interaction between the elements of the Stalinist system. Each new leader, who took the chair of the arrested predecessor, sought to "reveal the plans of the enemy" to the maximum extent possible. Inside the country, this led to an avalanche of falsified "cases of espionage and sabotage", in foreign intelligence - to a multiple overestimation of the production capacity of the German aviation industry. Everyone in his place tried to "ov

unknown ”(wording by A.S. Yakovlev) also wanted orders, money and fame, and without demonstrating vivid pictures of the horrendous backwardness of the Soviet aviation industry, it was impossible to “fill up” highly experienced specialists and destroy the established design teams. Of course, my version is

nothing more than a hypothesis, but here's what can be said with all certainty - without even conducting a seance and without once again quoting a well-known fragment from Yakovlev's memoirs (where Stalin says the words "old specialists whom we they trusted us very much, we were led into a swamp with aviation”), is that Stalin is not mor to endure such a lag from competitors. Aviation was the Boss's favorite brainchild (and even the pilots were awarded the almost official title of "Stalin's falcons"), therefore, believing that the "old cadres" were good for nothing, he decided to take matters into his own hands.

A. Stepanov in his monograph cites a remarkable fact. If in three years (from 1936 to 1938 inclusive) Stalin received the head of the Red Army Air Force 27 times in his Kremlin office, then in 1940 alone - 38 times. On January 25, 1940,

signed by Stalin and Molotov, a joint Decree of the Council of People's Commissars and the Central Committee of the All-Union Communist Party of Bolsheviks "On the work of the NKAP" was issued. In the second paragraph of the document, the people's commissar and members of the collegium were instructed "to signal in a timely manner about institutions, enterprises and persons that threaten to disrupt this resolution." On November 16, 1940, by the Decree of the Politburo of the Central Committee, the directors of aircraft and aircraft engine plants were obliged to report daily on the number of aircraft and engines produced and accepted by military acceptance. "Special folders" of the minutes of the meetings of the Politburo of the Central Committee for 1940–1941. (more precisely, what was declassified under this name and presented to the public in the RGASPI, f. 17, op. 162) are almost half devoted to discussing issues of the aviation industry and the Air Force. Finally, in order to further (although, it would seem, much more?) Strengthening "party influence" in a number of city committees and regional committees, a special

post of "secretary for the aviation industry" was introduced. What fundamental decisions were made in the course of endless meetings?

The question of paramount importance about the choice between quantity and quality was resolved with enviable simplicity - both. The Soviet aviation industry was tasked with increasing (and not by a few percent, but many times!) the volume of production of combat aircraft, while in terms of their performance characteristics they had to surpass all competitors - and not real ones, but "virtual" ones, which at a speed of 720– 750 km / h swept through the pages of intelligence reports.[55]

For the sake of completeness, it remains to add that this Great Push should have taken place in a phenomenally short timeframe.

In 1939, the aviation industry of the USSR produced 10,360 aircraft, including 6,790 combat aircraft; in 1940 respectively 10,570 and 7,830.[56] The

production plan for 1941, approved on December 7, 1940 by the decision of the Politburo of the Central Committee, provided for the production of 20,150 aircraft, including 16,530 combat aircraft[57] . In other words, it was necessary to increase the volume of production of combat aircraft by 2.4 times compared with 1939. However, even such rates seemed insufficient. On June 16, 1941, the leadership of the People's Commissariat of the aviation industry was already discussing "the progress in fulfilling Comrade Stalin's instructions to produce 50 aircraft per

day" (which corresponds to 18,000 aircraft per year).[58] During the discussion, we came to the conclusion that 50 does not work out, and settled on the figure of "48" purely combat (without training, transport, naval, reconnaiss

Unfortunately, neither that day, nor during any other meeting, did anyone have the courage to ask the question of how this cloud of planes would magically rise into the air? Slightly violating the chronology of the presentation, we note that during the first 12 months of the war (from July 1, 1941 to June 30, 1942) the Armed Forces received and consumed 520.4 thousand tons of high-octane aviation gasoline.[59] So "a lot" of it turned out to be only because, along with the products of the current production of Baku factories, the entire mobilization stock of aviation gasoline accumulated in the prewar years was used up. In the next 12 months, despite the increase in production capacity for oil cracking, only 472 thousand tons of high-octane aviation gasoline were delivered to the front.

And now let's count a little. 520 thousand tons per year is 1.4 thousand tons per day. Refueling of a typical fighter of that time - 350 kg of gasoline; light front-line bomber (such as the Soviet SB) - 900 kg. As you can see, with such a resource of aviation gasoline, it was possible to provide no more than 1.5 thousand sorties of fighters and 1 thousand sorties of light bombers per day. To do this, it is quite enough to have in service one thousand serviceable fighters and bombers each (and if you use military equipment intensively, even less). Why was it necessary to produce 16,000 combat aircraft a year, if there is obviously nothing to refuel them with? However, instead of throwing all available resources into correcting the catastrophic situation with the production of high-octane aviation gasoline, "collective Stalin" demanded everything

new and new aircraft.

Since the existing plants were already operating at the limit (and, judging by the number of defects, beyond the limit) of their capabilities, the planned increase in the production of aircraft and aircraft engines had to be realized through the grandiose construction of new production facilities. In the structure of the NKAP, a special Main Construction Directorate was created, under which 25 (!) Construction and installation trusts were transferred. 9 new aircraft and 6 aircraft engine plants were laid down; in addition, another 9 aircraft manufacturing and all aircraft engine plants were subject to reconstruction.[60] In addition, 60 enterprises of other sectors of the economy were transferred to the NKAP (including furniture factories and agricultural engineering plants, accustomed to working with “plus or minus half a finger” tolerances). Contrary to a widespread misconception, new factories were

built not only in the eastern regions of the country, remote from the future war front in Europe. In the spring of 1941, plants No. 35 in Smolensk, No. 450 in Kharkov, No. 458 in Rostov, and No. 165 in Dnepropetrovsk were already at the stage of completion of construction. In October 1940, a decision was made to build aircraft factories in Minsk and Mogilev. At the aforementioned meeting in the NKAP on June 16, 1941 (i.e., a week before the start of the war), the issue of expanding the production of training aircraft at plant No. 463 in Tallinn and plant No. 464 in Riga was discussed.[61] Major center of aircraft industry

was to become Leningrad. On July 26, 1940, the next Decree of the Council of People's Commissars and the Central Committee of the All-Union Communist Party of Bolsheviks prescribed by January 1, 1942 to create production facilities in Leningrad that would ensure the production of 4,000 combat aircraft and 5,000 aircraft engines per year. By the beginning of the war, 14 —

NKAP plants (including aircraft repair plants) had already been deployed in the "cradle of the revolution".[62] As expected, a huge army of prisoners was involved in the construction of new factories. In particular, on August 28, 1940, the Directorate of Special Construction of the NKVD of the USSR was formed, under whose leadership two aviation (No. 122 and No. 295) and engine-building (No. 377) plants were built on the outskirts of Kuibyshev (Bezymyanka railway station). By January 1, 1941, 43 thousand prisoners were working on a huge construction site, and by August 15 their number had reached 94 thousand people, exceeding

the total population (including infants and the elderly) of pre-revolutionary Samara. Probably not wanting to replenish the army of forced diggers, the leaders of the NKAP did not upset Comrade Stalin with the question of who would work at these factories if the existing ones were in a fever from a lack of skilled workers, and with an even more unpleasant question: in what magical

way would these new factories provided with raw materials? In the year of the beginning of the World War (1939), Great Britain, together with the dominions, produced 100 thousand tons of aluminum, the USA - 148 thousand tons. Two years later, in 1941, the annual production of aluminum in these countries doubled to 217,000 and 280,000 tons, respectively. Germany, which does not have its own bauxite deposits (99% of this main raw material for aluminum production was imported), increased its aluminum production from 21 thousand tons in 1931 to 194 thousand tons in 1939. In 1941, despite the naval blockade , Germany retained the world leadership, producing 324 thousand tons of aluminum. In the next year, 1942, Germany (taking into account the production of aluminum in occupied and/or controlled countries) smelted 420 thousand tons, but at the same time lost the first place in world production, sinc

Against the background of such figures, the actions of the well-known "effective manager" who set out to create

military aviation, outnumbering all potential adversaries combined, on the basis of the production of 48.7 thousand tons [63] of aluminum in 1939 and 59.9 thousand tons in 1940. Even the production of 100 thousand tons provided for by the state plan aluminum in 1941 did not allow even half to approach the level of the leading aviation powers - and this despite the fact that the USSR had the richest explored deposits of bauxite (Tikhvin and North Ural). In fact, the production plan of 1941 was frustrated, because two of the three main aluminum producers (Zaporozhye and Tikhvin plants) ended up in a combat zone, and it was possible to return to a very low pre-war level of aluminum production only by the end of 1943. Only help Allies, who supplied more than 300 thousand tons of aluminum to the USSR during the war, saved the Soviet aircraft industry from complete collapse.

The intention to multiply the production of combat aircraft, not ensured by the outstripping growth in aluminum production, inevitably led to the fact that the so-called "new types of fighters" (LaGG-3 and Yak-1) turned out to be much more wooden than "hopelessly outdated" I-16. It should also be taken into account that not all raw materials for the production of "wooden" aircraft grow in the forest. Hundreds of tons of special adhesives, putties and varnishes were not to be taken from the branch. The all-wood LaGG-3 fighter was made from "delta wood", i.e. special multilayer plywood. Resins for the production of "delta wood" were purchased abroad, which, after the start of the war, led to a severe crisis.

The “wooden period” of the Soviet aircraft industry, which dragged on beyond measure, led to quite expected consequences in terms of the quality and reliability of the aircraft produced. If, for example, the production of a double-curved sheathing panel from duralumin sheet requires complex and expensive equipment (powerful press, press equipment, sheet cutting equipment), then gluing the same panel from birch veneer requires only a saw, brushes and a bucket of glue . On the other hand, in conditions of total war, an illiterate collective farmer could be assigned to the press and taught to press two

buttons (“punch down”, “punch up”). The quality of the panel (form accuracy, surface roughness, level of internal stresses) does not depend on the skill of pressing the button. In addition, the movement of the punch takes a few seconds, and the full drying of the glued panel requires many hours. The most important thing is that a highly qualified carpenter must be added to the bucket with a brush and they must be placed in a room with controlled temperature, humidity and

dustiness.

It was not so difficult to understand in advance how all these technological requirements would be observed in Russia, in an atmosphere of insane and non-stop "work rush" pre-war, especially wartime. At least from studying at the theological seminary, Stalin had to endure the knowledge of the gospel parable about "the grain that dies in the ground, in order to be reborn later in a full ear." Even in peacetime, pre-war times, it was necessary to gain courage and stop the production of "glued" fighters (fortunately, they were already made in unthinkable quantities), and the saved resources should be spent on equipping factories with equipment for civilized technologies for the production of all-metal aircraft. But Stalin, before whose mind's eye loomed figures of 25-30 thousand combat aircraft allegedly produced by Germany, did not dare to go even for the slightest reduction in the "shaft" - a very instructive (and very expensively paid!) Example of how the almighty seemed to would, the tyrant was a hostage of his environment ...

Stalin's intention to combine a sharp increase in production with the achievement of record performance characteristics of aircraft produced led to even more devastating consequences. The bar of requirements was set to an unprecedented height. So, on March 9, 1939, the NKAP prepared a report "On the development of experimental aircraft construction in the 3rd five-year plan." The following tasks were formulated in the document:

"1. Receive in 1939–1940. on practical combat single-seat aircraft, the maximum speed is 600-650 km / h at an altitude of 6-7 km.

2. On aircraft such as high-speed bombers - 550-600 km / h at altitudes of 8-9 km ...

4. In individual experimental special samples, all of the indicated indicators should be significantly exceeded, for example, the maximum speed should be 700–800 km / h, the practical ceiling should be 15–16 km ... ”That's it. Know ours! In reality, the speed of 800 km / h was [64] achieved only on jet aircraft, and Soviet fighters climbed to a height of 16 km only in the early 50s ... Of course, about reaching such gaping heights with mossy

"bourgeois specialists" who blindly believe in the fact that the sine cannot become greater than one was out of the question. It was decided to give way to the "young and unknown." What followed was repeatedly (and with genuine enthusiasm) described in Soviet memoirs and military patriotic literature. In January 1939, a large conference was held in the Kremlin on the problems of

military aviation. Almost all the leaders of the People's Commissariat, prominent military leaders, scientists, factory directors, and designers were present. Stalin, Molotov, Voroshilov sat on the presidium of the meeting. It was decided to entrust the competitive development of a new generation fighter to 12 design teams. In the shortest possible time, at a "Stakhanovite" pace. One of the participants in the meeting (and the future winner in the announced creative competition), A.S. Yakovlev, describes in his memoirs one of his conversations with the Boss as follows:

“- I was not involved in the construction of such aircraft, I have no experience ... But the Americans are making a new fighter in two years, so What...

- Are you an American? Stalin interrupted me. “Show me what a young Russian engineer is capable of…”[65] . The story of the "competition of 12" testifies to the absolute, fatal misunderstanding by Comrade Stalin of the problems of aviation and ways to solve them. What the “Americans”, that is, large, highly experienced design teams with a powerful production and laboratory testing base, did “in two years” [66], newborn dwarf design bureaus could not do in principle. Nominally, in 1939, there were 30 aviation design bureaus in the USSR,

in which 3166 engineers worked, that is, an average of 100 people per design bureau. But this is an average, in fact, 825 engineers worked in

consisting of the four largest design bureaus (Polikarpov, Ilyushin, Arkhangelsk and Sukhoi). The largest was the Polikarpov Design (358 employees). [67] Bureau, [68]) And this number was unacceptable (not enough to develop such a complex technical complex as a combat aircraft. What could be expected from dwarf design bureaus consisting of several dozen "young Russian engineers"?

The current situation required concentration of efforts, consolidation of design bureaus, and not dispersion of the already extremely small design personnel. One or two design bureaus for fighters, one or two for bombers - this is the maximum that could be formed on the basis of available human and material resources. In this case, it was not worth fearing "monopoly" - there is always a competitor in the development of military equipment. This is an adversary, a tough confrontation with which spurs the progress of engineering no worse than the competition of development firms within the country. Finally, it

was absolutely pointless to develop 12 fighter projects for two engines that did not work properly (M-106 and M-88). It would be better if Comrade Stalin - if, within the framework of his understanding, "paying special attention" was associated with "creating many offices" - twice assembled 12 engineering teams and instructed each dozen to "bring to mind" one motor. Nothing more was required. In the presence of reliably working M-105 / M-106, the highly experienced Arkhangelsk Design Bureau (if it was not interfered with) could maintain the line of SB (Ar-2) bombers at the proper level for another two or three years; The efficient M-88/M-89 engine solved the main problems with the launch of the new Polikarpov (I-180) fighter and the modernization of the Ilyushin DB-Zf. If there was any deep meaning in Stalin's decision, then

it probably consisted in an attempt to transfer the accumulated experience of "fighting spies and pests" into the field of aircraft construction. There, as is known, the following scheme was adopted: to arrest the first million who came across and beat them hard; as a result, a couple of real (or almost real) spies will be found among those arrested. In January 1939, Stalin may have counted on the fact that among the 12 young and unknown designers there would be

one who will come up with something "such", flying at an altitude of 16 km at a speed of 800 km /

h ... Anyway, the great work began to boil. In 1939, 40 new aircraft and 29 modifications were at the stage of design, construction and initial testing; in the next year, 1940, 45 and 36, respectively.[69] Quite hefty prizes awaited the winners of the Big Race. The same Yakovlev, without a shadow of embarrassment, tells in his memoirs that for the development of a high-speed bomber BB ("product 22", Yak-2), he received the Order of Lenin, a representative car "ZIS" and a bonus of 100 thousand rubles (a lot of money, taking into account Note that in 1940 the average wage of an industrial worker was 340 rubles per month).[70] Stalin had unlimited prizes (orders, cars, money), it was much more difficult to determine the winners.

Yes, Comrade Stalin personally undertook the restructuring of the aviation industry, but this does not mean at all that he ceased to lead the development of tanks, cannons, mortars, machine guns and warships, that he digressed from control over the release of new films, entrusted someone to sign the execution lists to the highest nomenclature and the appointment of ambassadors, directors and commanders. With such an inhuman workload of a million diverse cases, Stalin needed to find a single criterion for evaluating new aircraft. One, and quite simple and intuitive (let's not forget that the Owner did not even receive a secondary education in the amount of a 7-year school). The criterion was SPEED. From the moment Stalin decided that the entire complex and interconnected

complex of flight, tactical and operational characteristics of a combat aircraft can be reduced to a single figure, this opinion - hasty and incompetent - has become an immutable law for everyone. In the above-mentioned Decree of the Council of People's Commissars of the USSR and the Central Committee of the All-Union Communist Party of Bolsheviks dated January 25, 1940, the tasks assigned to scientists and designers were formulated to the utmost

It's clear:

"a) Serial

Mass series in 1940: for fighters - 575-600 km / h, for bombers - at least 500 km / h (no other

technical parameters were not even mentioned. - M.S.) b)
Experimental
Resolutely improve the organization of experimental work on research ways to maximize speed c) R&D Over the next
2-4
months, reorganize the work of research institutes TsAGI, CIAM, VIAM in the direction of concentrating their attention on solving the most important problems of modern aircraft construction in accordance with the requirement of high speeds.[71] Evaluation of a combat aircraft according to a single parameter (~~it~~
is not so important according to which one) made it impossible in principle to win a competently and conscientiously developed project. The choice of maximum speed as such a parameter made Polikarpov's fighters (I-180 / I-185) with an air-cooled engine absolutely "impassable" - with all the tricks of the designers, the air-cooled "star" will always have a larger cross-sectional area than that of an in-line liquid-cooled engine the same power. Accordingly - greater aerodynamic resistance of the "blunt" fuselage and lower flight speed. At the same time, the air-cooled engine had a very important advantage for a combat aircraft, and it was too early to throw it into the dustbin of history.

As the name implies, the air-cooled motor does not have a "cooling jacket" of the cylinder block, there is no radiator and connecting water pipes; there is nothing that disables the engine after the first hole. Moreover, the "lobed" engine acts as a "shield", partially covering the pilot. Moreover, the small size of the "star" in the longitudinal (from nose to keel) direction allows you to place a gas tank in the space between the engine and the cockpit (this is how all Polikarpov's fighters were arranged: from I-15 to I-185). In this case, the gas tank (the most vulnerable point of the aircraft) turns out to be closed from shelling from the front - by the engine, from shelling from behind - by the pilot's armored back. It was much more difficult to implement such an arrangement on a fighter with a "long" liquid-cooled engine; gas tanks had to be placed either in the wing planes (Yak-1, LaGG-3, Aerocobra), which

sharply increased the likelihood of hitting them, or even in the fuselage behind the armored seat (Tomahawk P-40, Messerschmitt Bf-109), i.e., in the most affected zone during shelling by an enemy fighter. Finally, the weight of the liquid-cooled engine (taking into account the weight of the radiator, conduits, and the coolant itself) was 100–150 kg higher than the weight of an air-cooled engine of equal power. Of course, it

will not be possible to describe all the “pluses” and “minuses” in one paragraph; the dispute between the two types of piston aircraft engines continued until the very end of the war, both "sharp-nosed" and "blunt-nosed" fighters were produced in huge series. Alas, this most complicated scientific and technical problem was “solved” too simply in the USSR - it came to the point that Perm Plant No. 19 (the main manufacturer of air-cooled “stars”) was completely switched to the production of liquid-cooled engines. The December (1940) plan for the production of aircraft engines for 1941 provided for the production of 20 thousand M-105, 8 thousand AM-35 - and not a single powerful two-row "star"! And since the new liquid-cooled engines (M-107, AM-37, M-120) could not be brought to a working state (to tell the truth, no one could have known this in 1940), the Soviet aviation industry had every chance of being "broken trough". However,

all this did not embarrass the participants of the Great Race. Even the most "young and obscure" graduate of the Aviation Institute understood what exactly had to be done in order to get a record speed without a normal engine. Believe me, it's not easy, but very simple. First of all, everything

“extra” must be removed from the aircraft: weapons, body armor, a radio station, most of the equipment (including an electric generator, battery and landing light). Considerable "reserves" are hidden in the engine cooling radiator - this seemingly small device "clings to the air" with all its numerous plates and makes a very noticeable contribution to the overall resistance of the aircraft. Accordingly, by reducing the cross section of water and oil coolers, a significant increase in speed can be achieved. Yes, at the same time, an overheated engine with overboiled oil will fail already on the fifth flight, but after the first flight you can

report to the Owner about the record speed, and then "transfer arrows" to the engine engineers, who, de facto, did not provide the declared motor resource. Finally, the test flight itself can be carried out "smartly", that is, without a bomb load, without defensive small arms (and without the gunner himself), with a minimum supply of fuel - just enough for takeoff and acceleration. As the well-read

reader has already noted, the above almost exactly describes the algorithm by which the Yakovlev BB, during tests in the spring of 1939, reached a speed of 567 km / h. Later, when trying to turn the Yak-2 into a full-fledged bomber and install at least minimal defensive weapons on it, the speed of this “wunderwaffe” dropped to 445 km / h. The serial SB flew at about the same speed, but the SB really flew, and on the Yak-2, the radiators narrowed to achieve record speeds boiled, the brakes burned during landing, and the tires of the miniature landing gear wheels (another attempt to reduce aerodynamic drag due to an unjustified reduction in geometric dimensions) I had to change after 5-6 landings.

And this is far from the worst case. For a year and a half of testing and improvements, the "raw" Yak-2 was still turned into a regularly flying Yak-4. True, the combat value of this initially stillborn aircraft remained close to zero, and on February 12, 1941, a rather belated decision was made to stop production. Two hundred Yak-2/Yak-4 were lost in the first months of the war, and on this one of the many stories of aviation technical adventures of the late 30s came to an end. Strange, but neither ZIS nor the Order of Lenin was taken back from Yakovlev ...

The passionate desire of "young and unknown" swindlers to report on the fulfillment of the task of Comrade Stalin sometimes had incomparably more sad and shameful manifestations, but we will no longer waste time telling about all other adventures (fortunately, a lot has already been written about this today). Let's jump straight to the end result.

A positive result, no doubt, was. He could not have been. Even a steam locomotive, which uses nine-tenths of the coal burned in the furnace to heat the atmosphere, moves forward, and even pulls the train along with it. The huge Soviet aircraft industry, accumulated in

In the mid-1930s, rich experience in the development and mass production of magnificent combat aircraft could not work completely idle even in those insane conditions that an “effective manager” created for its development. Yes, the

resources spent on the construction of new aircraft factories in the western regions of the country were wasted (or got to the enemy); yes, most of the aircraft factories, the construction of which began in 1939-1941, were never completed, but construction sites, foundations, access roads and buildings of unfinished factories saved the Soviet aircraft industry during the large-scale evacuation that began in the fall of 1941. Thus, the great construction of the NKVD in Kuibyshev made it possible to evacuate to the rear, inaccessible to German bombers, two (of the four largest) aircraft factories (Moscow No. 1 and Voronezh No. 18) and one (of the three largest) aircraft engine plant (Moscow No. 24). As a result, a huge aircraft industrial complex arose on the Volga, which regularly worked for the front and victory throughout the war.

The great work of scientists and designers was not completely ineffectual either. Two and a half successful developments were launched into mass production.

The first of them should be called the Il-2 armored attack aircraft. Like no other aircraft of the Soviet Air Force, this Ilyushin Design Bureau met the criterion of "badly tailored, but tightly sewn." Unlike the design of all (foreign and domestic) competitors, the armor in the IL-2 was not hung on the power frame of the fuselage, while turning into additional cargo. The Il-2 armored box was the main power element, inside and on which an engine with a propeller gearbox, two gas tanks, an oil tank, a cooling radiator, and a pilot's cabin were installed. This "obvious" at first glance technical solution became possible only thanks to the enormous achievement of Soviet metallurgists who developed highly plastic AB aviation armor and the technology of its hardening and stamping. A finished double-curvature armor panel with exact dimensions came out from under the press. Fifty such panels were assembled into a single three-dimensional structure, just as the bricks of the dome of a building, resting against each other, create a single strong vault.

The "heart" of the attack aircraft was the low-altitude AM-38 engine developed at the Mikulin Design Bureau. In fact, it was still the same AM-35 with a single-speed supercharger, but re-adjusted to provide maximum boost at low altitude. Having got rid of many "childhood diseases" as a result of long-term refinement (AM-38 tests began in October 1939 and continued throughout the next year), the new engine developed a takeoff power of 1600 l / s, nominal near the ground - 1410 l / s; at the same time, even the specific (per unit of power) weight of the initially heavy and bulky Mikulin motor decreased to a very decent mark of 0.54 kg / hp. The high unit power engine made it possible to create a heavy armored aircraft with flight characteristics better than, for example, the German single-engine dive bomber "Junker" Ju-87. For all that, the IL-2 was, of course, neither a “flying

tank” (the armored box protected only from small arms fire and anti-aircraft shell fragments; the wing panels and the tail section of the fuselage were all-wood), nor a flying “tank destroyer” (the shell of the 20 mm ShVAK cannon, as well as the 23 mm VYa-23 cannon, in most cases ricocheted even on the armor of light German tanks). This plane was not a "miracle weapon", but it appeared at the right time and in the right place. IL-2 has become a reliable assistant to the long-suffering infantry of the Red Army, successfully solving the problem of fire support for troops on the battlefield. But, perhaps, the most important advantage of the aircraft was its excellent flight performance and ease of operation. “It doesn’t fall into a tailspin during uncoordinated turns, it flies steadily in a straight line even with abandoned controls, it sits down by itself. As simple as a stool," these are the words the pilots described the Il-2.[72]

It was this kind of “simple as a stool” aircraft that was needed for the Total War Air Force, which was formed according to a nowhere recorded, but quite obvious principle: “a lot of pilots with very low flight training.” Simplicity in mastering and piloting allowed the "silt" to become the most massive combat aircraft of the Great Patriotic War. Already in 1942, having coped with a huge heap of problems caused by the hasty evacuation of three factories, the aircraft building complex in Kuibyshev produced 8229

IL-2. In total, during the war, 35,668 "silts" were produced, which is an absolute world record for the production of a combat aircraft of the same type.

The second achievement was the "double star" air-cooled M-82. The development and launch of this motor into mass production was a real feat, and not only scientific. General designer A.D. Shvetsov and the leadership of the Perm Plant No. 19 took a serious risk, in fact refusing to comply, no less, with the Decree of the Council of People's Commissars and the Central Committee. They retained the equipment and equipment for the production of air-cooled "stars" and almost illegally continued to refine the M-82. At the beginning of May 1941, Shvetsov and the first secretary of the Perm (at that time - "Molotov") regional committee Gusarov achieved a personal meeting with Stalin.[73] As a result, on May 17, 1941, it was decided to resume the production of air-cooled motors at plant No. 19 and to prepare the M-82 for mass production as soon as possible. The promising motor was "saved". The 14-cylinder "double star" M-82 was a completely original development of the Shvetsov

Design Bureau. Due to a significant reduction in the piston stroke, it was possible to reduce the engine diameter from 1375 mm (as was the case with the Wright M-63) to 1260 mm. This "trifle" made it possible to reduce the cross-sectional area of \u200b\u200bthe motor by 15%. Shvetsov's engine was distinguished by a very high average effective pressure (from 13.9 to 15.5 atm. in various modifications), significantly surpassing all Soviet (and many foreign) aircraft engines in this parameter. (60) Fine-tuning such a loaded motor was hard and long. For the whole of 1941, only 412 units were produced, and even those did not work with the necessary reliability and resource. Nevertheless, by the end of 1942, the resource of the serial M-82F already exceeded the required 100

hours.

In the summer of 1943, the ASh-82FN with a direct fuel injection system went into production (and in this respect, the Shvetsov engine was the only one among serial Soviet engines). Takeoff power ASh-82FN reached 1850 l / s, nominal (at the second altitude limit) - 1460 l / s. According to these indicators, the ASh-82FN was not inferior to its main competitor, the German BMW-801D (installed on Focke-Wulf FW-190 fighters), but at the same time it was 150 kg lighter! Serial production of such a motor (up to

more than 14 thousand units were produced at the end of the war) made it possible, at least by the end of the war, to put into service with the Soviet Air Force the La-7 fighter and the Tu-2 medium bomber, which are not inferior in terms of performance characteristics to the best enemy aircraft. Without exaggeration, "fateful" For our aviation, Shvetsov's engine worked for many years after the war - on La-9, La-11 fighters, on passenger Il-12 and Il-14, on the first Soviet

helicopters (Mi-4). Half of the success, in my opinion, should be characterized by the development and launch into mass production of the Yak-1 fighter. Not to mention the many large and small shortcomings in the design of the aircraft and units (the defective test sheet for testing the Yak-1 prototype at the Air Force Research Institute totaled 123 points) - a similar reproach can be made to any aircraft of that era - the Yakovlev fighter had two fundamental, irremovable (and not eliminated in full in all subsequent versions of the Yak-7, Yak-9, Yak-3) shortcomings:

- one-piece (which made it difficult to transport and repair in the field) glued wooden wing of insufficient strength, which was even more reduced due to violations of technological discipline in the conditions of "high-speed" wartime production; - an extremely poor composition of electro-

radio navigation equipment (even in the spring of 1944, not all Yak-3s were equipped with a transmitting radio station!). It can be said that Yakovlev "pushed"

such an aircraft into the series, taking advantage of his special (unlike all other general designers) position of deputy people's commissar of the aviation industry and the informal status of "personal adviser-master" on aviation issues. And we can say that the young designer demonstrated the brightest example of the "art of the possible."

The Yak-1 was eminently "Soviet aircraft". Simple and easy to operate, quite accessible to a pilot with poor training; with an archaic design for the 40s (a welded truss fuselage with a broken skin and an all-wood wing), which made it possible to launch the aircraft into large-scale production at the Sarcombine Saratov plant (alas, this is not

joke); lightened to the limit and even beyond the permissible limit, without which it was impossible to obtain high flight performance with an engine (reboosted to the last opportunity by the Hispano Suiz, born in 1934), more and more inferior in power to German competitors. And the fact that the wings were falling apart in flight, we had a ready answer: "The war will write everything off." I wrote off everything - you can be sure that the mothers of the pilots who crashed on the "yaks" received a "funeral" with the standard phrase: "Your son died a heroic death in battles with the Nazi invaders ..."

Be that as it may, the Yak-1, in terms of its performance characteristics, undoubtedly surpassed the Soviet fighters of the previous generation (I-16, I-153) and was not much inferior to the best at that time German "Messer" Bf-109 F - this is exactly the opinion practically Soviet pilots and commanders of air regiments unanimously spoke out (as the reader will be able to see in the last chapter of our book). It may very well be that the “brought to mind” I-180 would have shown itself better in the battles of the 41st year (and much more would have had time to release them!), But today one can only guess about this, and the very comparison of a certain project with a real one aircraft and its real shortcomings gives off speculation ... The pace with which the Yakovlev Design Bureau fixed most of the problems on an extremely “raw”

prototype and launched a new fighter into a series is also commendable. Re-reading this brief review of the achievements of the last pre-war year, paying attention to the names of the main characters (Ilyushin, Mikulin, Shvetsov, Yakovlev), we will find that almost all of them are among those very “old specialists” (Shvetsov, for example, entered the MVTU named after Bauman, which was then called the "Imperial Moscow Technical School", back in 1909), which, according to Stalin's reckless words, "led us with aviation into a swamp." With very serious reservations, A.S. Yakovlev. He already had experience in the design and production of quite successful passenger aircraft with the monstrously unfortunate name "AIR" (after the initials of the chairman of the Council of People's Commissars and the future "exposed enemy of the people" A.I. Rykov); experience in designing and serial production of training aircraft (perhaps it was then that Yakovlev Design Bureau specialists learned to find the optimal parameters of stab

controllability of a maneuverable aircraft). And the shameful story with the "bomber" Yak-2 enriched the General Designer with experience, which, as you know, is "the son of difficult mistakes ...".

We repeat once again - there were achievements, and very serious ones. In war, however, the time factor is more important than all others. The picture of success becomes much less rosy, one has only to look at the “instant photograph” on June 22, 1941. The number of combat aircraft equipped with the M-82 engine was zero that day. Close to zero (a few dozen vehicles, often not yet flown by crews) was the number of Il-2 attack aircraft in the air force units of the western military districts. Slightly better was the case with the Yak-1 fighter. The 20th IAP (Kiev OVO) was re-equipped with the new aircraft. Another 6 "yaks" were in the neighboring 91st IAP. 20 aircraft each - in the 158th IAP of the Leningrad and 123rd IAP of the Western districts. Another 19 "yaks" were in the Air Force of the Black Sea Fleet. In reality, they managed to master the new fighter in the 20th IAP alone; in the rest, it’s good if you managed to make several fact-finding flights. In any case, the Yak-1 accounted for less than three percent of the total number of Soviet "first echelon" fighters (i.e., the Air Force of five districts / fronts and two fleets). "A drop in the sea".

Even more devastating were the consequences of "Stalin's perestroika" in relation to the development of bomber aviation. In this case, not only were there no noticeable achievements - there was a clear rollback. Unfortunately, there is no need to talk about a random coincidence of circumstances - the absolutization of maximum speed, as the only criterion for evaluating a bomber, inevitably led to devastating consequences. The task of "running away

from a fighter" is unsolvable in principle - neither tactically nor technically. If the bomber does not run, but bombs, then he will have to meet even with absolutely immobile anti-aircraft artillery. The object of attack (bridge, crossing, fuel depot, railway station) is quite predictable, and the enemy will most likely try to cover it with both anti-aircraft guns and fighters. From the point of view of technology (physics, flight dynamics), there are no "fighters" and "bombers" at all. There are aircraft with a greater or lesser relative weight of the engine, this is exactly what (with the same level of aerodynamic perfection

glider) and determines the maximum speed. A full-fledged bomber, half of the takeoff weight of which is occupied by fuel and bomb load, and no more than 10-15% is left for the engines, will always be inferior in speed to a fighter, which consists of a powerful engine by 25-30% by weight. In the era of

World War II, the combat survivability of a bomber was ensured primarily by the tactics of use (high altitude of approach to the target, camouflage by clouds and night darkness), the presence of fighter cover, as well as an all-round increase in the active and passive protection of the bomber aircraft itself. The correctness of just such an approach was confirmed from the very first days of hostilities - not only the "obsolete" SB and DB-3, but also the huge slow-moving TB-3s, returned safely from night sorties (the reader will meet many documents testifying to this in the following chapters) .

It is worth noting that the general direction of the development of strike aviation remained the same in the following decades: no one tried to “overtake the fighter”, and the aiming and navigation equipment, active and passive protection systems were improved on bombers and attack aircraft, guided bombs and missiles were introduced, which allowed the bomber not enter the enemy's active air defense zone. At the end of the 20th century, “battlefield aircraft” (the American A-10, the Soviet Su-25) flew at a speed three times lower than the maximum speed of their contemporary fighters, and this did not surprise anyone, did not horrify and did not serve as a reason to call these magnificent cars "hopelessly outdated rubbish ...". The December (1940) aircraft production plan for

1941 provided for the production of seven (!) different types of bombers. So what actually came out of all this? Light bombers Su-2 and Yak-4, with their meager bomb load

and weak defensive weapons, unable to perform the work of a low-altitude attack aircraft or a full-fledged bomber, were soon (Yak - already in February 41, Su - a year later) discontinued and rightly forgotten. Heavy four-engine TB-7 (Soviet "Flying Fortress"), for the release of which a huge new plant No. 124 was being prepared in Kazan,

on the morning of June 22, it turned into a luxury that was unaffordable for the Soviet Union (23 cars were produced for the whole year). The magnificent (for its time) front-line bomber Ar-2 (dive modification of the SB) was already taken out of production on February 11, 1941. Even its high speed (512 km / h, i.e. more than any German bomber) was considered too low, and the place of the Ar-2 on the assembly slips of plant No. 22 (one of the four largest aircraft factories in the country, the former Junkers concession ”), and then the Moscow plant No. 39, and the Irkutsk No. 125, and the Kazan giant No. 124 were occupied by the Pe-2 high-speed dive bomber. The new plane was born in the prison

bowels of the NKVD OTB. As a basis for the development, it was ordered to take the project of the "product 100" developed there - a high-speed high-altitude fighter. It was difficult to come up with a more unsuitable “preparation”, however, in May 1940, the “exposed enemies of the people” were ordered to turn the “hundredth” into a bomber in ... a month and a half!

“If it’s fast to be born, it’s to be born slippery ...” The very narrow fuselage inherited by the new bomber (diameter 1.3 m) did not allow placing bombs with a caliber of more than 100 kg in the internal compartment; high landing speed (the inevitable price for the record speed of the fighter "ancestor") turned landing on field airfields into a difficult and dangerous stunt for mid-skilled combat pilots. The unthinkable development timeline did not even allow replacing the complex and unusual electric remote control system (it was easier to remove a bunch of fixed wires from the pressurized cabin of a high-altitude fighter) with traditional rods and cables. 50 (!) electric motors and many relays sparked and set fire to gasoline vapors, which caused numerous cases of spontaneous combustion of the Pe-2 in the air.[74]

In a word, it turned out to be a strange "under-bomber" with a very modest weight and range of bomb load, in all respects inferior to the Ar-2. (69) For all but one - speed. Without an external bomb sling, the Pe-2 flew 40 km / h faster than the Ar-2 in the entire altitude range. This was considered the decisive argument. The well-established production of SB / Ar-2 was curtailed and the production of Pe-2 began to increase at a frantic pace. He became the only (!) fighting

aircraft, the actual release of which in 1941 exceeded the planned target (1867 versus 1700). However, despite all the haste, by June 22, 1941, only 205 Pe-2s (less than 6% of the entire bomber fleet) were transferred to combat units of the Air Force of the first echelon, and far from all of them were assembled, flown and put into operation (not speaking about the

retraining of pilots). One can understand how the Pe-2 project seduced the poorly educated comrade Stalin. It can be assumed (taking into account the departmental affiliation of the OTB) who acted as a "seducer". It is hardly possible to understand the motives for which the tested, tested in combat conditions, which has great potential for further modernization, DB-Zf was discontinued for the sake of a shaky mirage called Yer-2, it is hardly possible. The problem is that we do not know the plans of Comrade Stalin, we do not know with whom and when he was going to fight. That is why it is difficult for us to understand why he needed a bomber with a range of 5 thousand kilometers (which, by the way, is twice the distance from Minsk to Berlin and back). DB-Zf, although it flew farthest from all serial bombers in Germany, England and the USA, did not meet such requirements. However, in a real war against Germany, even this "small" (3300 km) flight range was used in no more than 6% of sorties - all the rest were made against objects on the battlefield or in the near operational rear of the enemy.

[75] The beginning of the history of Ep-2 is quite remarkable. The chief designer (Italian aristocrat R. Bartini, who of his own free will came to help the country of the “victorious proletariat”) was, as expected, arrested in January 1938. The design bureau was headed by a young party organizer of the enterprise, a graduate of the Mekhmat of Moscow State University V. Ermolaev (to tell the truth, Bartini appreciated this young engineer and, according to eyewitnesses, saw him as his successor). The aircraft was beautiful and aerodynamically very perfect. Calculations showed the possibility of achieving a range of 5 thousand km and a maximum speed of as much as 565 km / h! The small “but” was that such parameters could theoretically be obtained with 18-cylinder M-120 engines with a take-off power of 1800 hp. This is where it woul

bring closer by persistent work) the moment when an engine of such unit power will be created and brought to a working state. Of course, the Master (and those who

understand his will) could not and did not want to wait. On May 14, 1940, the first flight of the new bomber took place; on October 17, 1940, state tests were completed at the Air

Force Research Institute. And although the test report, without any equivocation, stated that not a single requirement of the terms of reference was met, the Yer-2 was launched into mass production at aircraft plant No. 18 in Voronezh, the main manufacturer of the Ilyushin DB-Zf at that time. Due to the unreliable operation of the M-120 engine, as well as the M-106, as well as the AM-37, as well as the M-40 aircraft diesel engine, it was decided to “temporarily” produce a new long-range bomber with two M-105 engines with a take-off power of 1100 l /With. Alas, none of those who were supposed to do this on duty dared to explain to Comrade Stalin that miracles do not happen in nature: a 5-ton Yak-2 and a 14-ton Yer-2 cannot fly equally well and quickly with one and the same motors.

On April 12, 1941, the people's commissar of the aviation industry, Shakhurin, signed order No. 330, according to which the production of DB-Zf in Voronezh was completely stopped, and it was proposed to concentrate all the forces of the plant on the production of Il-2 and Yer-2. Two new aircraft, and completely different in design and production technology of the aircraft, turned out to be an unbearable burden even for such a giant as aircraft plant No. 18. The manufacturing quality of the first Ep-2s was amazing - even by the sharply reduced standards of the era of the Great Races. Of

the 60 aircraft handed over to combat units by the beginning of August 1941, 6 burned out in the air as a result of spontaneous combustion of the engine, one fell off at a peak and crashed for an unknown reason, 30 had breaks in the hydraulic system for retracting and extending the landing gear. An urgently created commission discovered that gasoline does not even leak from the connector of the gas system pipeline, located next to the red-hot exhaust manifold of the engine (obvious design defect), but spurts; nuts flew over the superchargers of the motors, and in one of them a wrench forgotten by the locksmith

Ultimately, the Er-2 never became a combat-ready aircraft, primarily due to the lack of an adequate engine. With the low-powered M-105 for such a machine, the plane barely took off from especially long concrete runways. During the entire war, about two hundred “conditionally fit” Yer-2s were transferred to combat units of long-range aviation. In December 1944, Ermolaev fell ill with typhus and died untimely. This sad circumstance, as well as close acquaintance with the American bombers received under Lend-Lease, summed up the final line under the Yer-2 project. Returning

to the events of 1941, we find that plant No. 18 stopped production of DB-Zf and never resumed it, since all its capacities were switched to the production of the Il-2 attack aircraft. Nothing came of the Er-2, the Ar-2 and Yak-4 were taken out of production in February, the production of the Pe-2 was just beginning, and the combat potential of this aircraft was very low. The only - no matter how wild it sounds, given the huge potential of the Soviet military economy - a full-fledged medium bomber that still remained in mass production was the same DB-Zf, the production of which, fortunately, continued on the very edge of the earth, on plant number 126 in Komsomolsk-on-Amur. A low-powered (in comparison with the giant No. 18) plant produced DB-Zf at a rate of 60 vehicles per month - this was not even enough to cover combat losses; one could not even dream of increasing the number of bomber units and seriously modernizing the aircraft in such conditions.

So, in the summer of 1941, the "Stalin's falcons" had to fight on the very aircraft that were already in service and in mass production by the time the Great Races announced by Stalin began - on well-deserved, but already rather outdated veterans of the Spanish and Finnish wars: fighters I-16, SB and DB-3 bombers. Judging by the combat composition of the Air Force of the western districts, two years in the history of the USSR simply disappeared. Disappeared into oblivion.

Immediately make a reservation: the metaphors uttered above should not be taken literally. There were changes in the composition of aviation weapons. And quite strange. A

third of all first-tier fighters (Air Forces of five districts / fronts and two fleets) were I-153 Chaika biplanes.

Formally, it was a "new aircraft". To this day, not a single historian who has discussed this topic has been able to find an intelligible answer to the question of the reasons why the production of the biplane fighter, obsolete already at the time of its birth, continued throughout 1939 and throughout 1940! And since the manufacturer was the flagship number one (Moscow aircraft plant No. 1, now the Samara plant Progress), they made more than 3.4 thousand of these "gulls". In 1940, the release of I-153 even exceeded the release of I-16 (2362 against 1607). Among other things, the I-153 production program "devoured" at least (taking into account the

repair and replacement of exhausted resources - and even more) 3.4 thousand really new and really magnificent M-62 / M-63 engines for their time. This motor in terms of dimensions and seats was quite interchangeable with the previous version of the Wright engine (M-25); during the fighting at Khalkhin Gol, such a replacement was made even in the field. (62) And this means that three thousand powerful motors could be used with much greater benefit with minimal time and labor - they could be installed on previously released I-16s. This would be quite useful, for example, for the 33rd IAP, which met the beginning of the war 70 km from the border in the Brest region, being armed with "Spanish" I-16 type 5 (!) Issue 1936-1937. (61) In total, almost 5 thousand "donkeys" with a 750-horsepower M-25 engine were produced (62). Even taking into account the inevitable losses of aircraft in combat operations and accidents, there was where to put three thousand powerful engines, but the hypnotic effect of the words "new fighter"

got stronger...

Ultimately, the production of I-16 and I-153 was discontinued, and the two largest aircraft factories (Gorky No. 21 and Moscow No. 1) switched to the production of two new fighters. The plant in Gorky, after a fierce struggle that lasted almost the entire 1940, was given over to the production of the LaGG-3 fighter. And in appearance, and in basic layout solutions, and in terms of the used engine (still the same M-105), the LaGG-3 was an analogue of the Yak-1> only significantly damaged. The damage occurred for quite objective reasons: the development of the aircraft began at the initiative of the people's commissar of the aviation industry M.M. Kaganovich, first on the basis of the "ski and propeller factory" in

Kuntsevo, then - at a furniture factory near Moscow, renamed "Aircraft Plant No. 301". The furniture origin (and the lack of experience of the newborn Lavochkin Design Bureau) predetermined both the choice of material (an all-wood aircraft with power elements made of delta wood), and a delightful appearance (the first copy was covered with dark cherry varnish and polished to a mirror finish), and excessive weight. With the same takeoff power of the engine (1100 l / s), the weight of the I-180 structure was 2020 kg, the empty Yak-1 weighed 2445 kg, and the LaGG-3 pulled all 2680 kg.

There was no reasonable point in spending one scarce engine and one no less scarce ShVAK air gun for the production of an aircraft that was obviously inferior to the Yak in terms of performance characteristics and much more labor-intensive to manufacture. Nevertheless, the Yak-1 was sent to Sarcombine, and one of the four largest aircraft factories in the country was given for the production of LaGG-3. Plant No. 21 was not a furniture factory, they didn't know how to polish pianos (and they didn't have the appropriate equipment and materials for this), as a result, the speed of the serial "lag" turned out to be even lower due to the increased frictional resistance of unpolished surfaces. The launch of the production of an all-wood aircraft, which was very different in

design from the previously produced I-16s, was delayed, and by June 22, 1941, there were practically no "laggs" in the Air Force units of the western districts (two dozen cars managed to be received in the Leningrad District, but by the time the beginning of the war, they have not yet been commissioned). The manufacturing quality of the first serial LaGG-3 was such that most of the aircraft turned out to be incapacitated -

the engines overheated, the radiators and hydraulic systems leaked, the thrust of the landing flaps broke, the system for retracting and extending the landing gear failed. Nevertheless, in terms of the production of combat aircraft for 1941, the LaGG-3 was in an honorable second place, significantly ahead of the Yak-1 (2960 against 1950). The

main winner of the Big Races was the MiG-3 fighter. The most powerful aircraft plant No. 1 was given for its production. The planned task provided for the release in 1941 of 3600 MiGs. On May 28, 1941, by the Decree of the Council of People's Commissars and the Central Committee of the All-Union Communist Party of Bolsheviks, Plant No. 1 was ordered to bring the production of MiGs to 13 vehicles a day by June 10! The flagship of the Soviet aviation industry did a grea

By the beginning of the war, more than 900 MiG-1 / MiG-3 fighters were in the Air Force of the western districts (not counting the Air Force of the Fleets). In other words, there were more MiGs at the front than Messers. It was the MiG-3 that became the only "aircraft of a new type" that took a significant part in the hostilities of the first days and weeks of the war.

The history of the appearance of the "instant" and the dramatic events associated with it has been repeatedly and in detail described in the historical literature. Let us briefly recall only

the main outline of events. In the summer of 1939, the Polikarpov Design Bureau, on its own initiative, worked out a draft design of a fighter, which received the designation I-200. The calculated altitude and speed characteristics were phenomenal - with the AM-37 engine equipped with two turbochargers, the maximum speed at an altitude of 11,600 m was 717 km / h. An aircraft with such parameters was simply "doomed" to become the winner in the competition for Comrade Stalin's prize. True, neither

a workable AM-37 engine, nor even more workable turbochargers (this device uses the energy of exhaust gases to rotate the supercharger, thereby significantly increasing the efficiency of the engine and its altitude) was not in sight; the long and heavy liquid-cooled motor worsened both visibility from the cockpit and longitudinal controllability; the layout of the AM series motors did not allow the installation of a cannon firing through the hollow shaft of the propeller gearbox; due to the unusually high wing loading, maneuverability decreased, and the landing speed turned out to be much higher than that of any other fighter. In a word, the project was still absolutely "raw", and Polikarpov not only did not report it "upstairs", but also forbade his employees to do so. Alas, in the era of general denunciation of secrets, there are no secrets ... At the end of November 1939, Polikarpov, as part

of a large delegation of engineers and intelligence officers, left for Germany. This moment was considered by a group of comrades to be the most convenient for theft. MM. Kaganovich (brother of Politburo member, Secretary of the Central Committee, People's Commissar of Railways and Fuel Industry L.M. Kaganovich), before whose expulsion from the post of People's Commissar of the aviation industry

only a few weeks remained (and a year and a half before his suicide in July 1941), he was in a hurry to enlist the support of A.I. Mikoyan (member of the Politburo, deputy head of government, people's commissar for foreign trade, at that time a member of the "inner circle" of the Master). It should be noted that the third Kaganovich (Yu.M.) from the beginning of 1939 worked as a deputy for A.I. Mikoyan in the People's Commissariat for Foreign Trade, and Yu.M. Kaganovich as First Secretary of the Gorky Regional Committee, Comrade Shakhurin was soon replaced by M.M. Kaganovich as People's

Commissar of the aviation industry. In such a tangle of the "powerful of this world" with the non-party son of the priest Polikarpov, no one was going to stand on ceremony. December 8, 1939 M.M. Kaganovich issued several orders at once, according to which the I-200 fighter project and more than 80 of the best specialists from the Polikarpov Design Bureau were transferred to the new Design Bureau, which was headed by Artem Ivanovich Mikoyan, Anastas Ivanovich's brother. It is noteworthy that at the time of his sudden “ascension to the kingdom”, Artem Ivanovich was on vacation, which the young (34 years old) designer spent in the Barvikha government sanatorium near Moscow.

From a young age, Artem Ivanovich Mikoyan followed in the footsteps of his older brother: at the age of 20 he was already a member of the CPSU (b), and at 23 he was the secretary of the party organization of the Oktyabrsky tram depot in Moscow. Then in his working biography there is a string of secretarial chairs in different places. In 1931 A.I. Mikoyan, not having a completed secondary education, goes to study at the Air Force Academy. Zhukovsky. Upon completion of his studies, he has been working since 1937 as a military representative at the Moscow aircraft plant No. 1. In March 1939, the young specialist was transferred to work in the factory design bureau, where he was immediately appointed head of the brigade. Thus, until the moment of his transformation into General A.I. Mikoyan worked as a designer for exactly nine months, as it should be for the normal bearing of a

It may very well be that the modern Russian reader, accustomed with the help of TV to the fact that "tough guys" begin with a mark of one billion dollars "cash", a gift that M.M. Kaganovich laid at the feet of Anastas Mikoyan, it will seem indecently modest. But don't judge the past by today's standards! People weren't spoiled back then.

oil trading, and the status of the creator of the best fighter of the Soviet Air Force opened the door to the most important office of the country. It only remained to convince Stalin that the I-200 was the best, but with such maximum speed figures that were drawn on paper, it was not difficult at all.

In the end, at the cost of huge efforts, the hard work of a team of many thousands, at the cost of the death of several test pilots (however, this is how any other aircraft of that crazy time was born) the I-200 project turned into a MiG-3 fighter with an AM-35A engine. At high altitude (7 km), the aircraft developed a speed of 640 km / h, surpassing in this indicator all serial fighters of opponents (and future allies) of the USSR. The speed near the ground was 490 km / h (slightly more than that of the Yak, Lagg or Messer E series). The rate of climb of a heavy (take-off weight 3355 kg) aircraft was very mediocre - 5 km in 6.5 minutes. (5 minutes for the I-180, 5.2 minutes for the Messerschmitt Bf-109 F). The time to complete the correct (without loss of height and slip) turn is 28 s. (25 s for the Bf-109 E, 18 s for the Bf-109 F, 17 s for the I-16, 13 s for the I-153 biplane). The landing speed was, by the standards of that time, too high - 145 km/h (125 km/h for the Messer, 120 km/h for the I-180).[76]

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But not these, rather contradictory flight characteristics, not weak, by the standards of the 40s, armament (one 12.7 mm BS machine gun and two 7.62 mm ShKAS), not numerous defects in the design and manufacture of the aircraft and engine (with time they could be eliminated) made the choice of "Mig" as the main fighter of the Soviet Air Force a serious mistake. The problem was elsewhere. Hero of the Soviet Union (at the beginning of the war - commander of the 43rd Fighter Division of the Air Force of the Western Front) G.N. Zakharov, who fought in Spain and China, flew all Soviet fighters, starting with the I-2bis, writes in his memoirs: “He did not forgive mistakes in piloting, he was designed only for a good pilot. The average pilot at the "instant" automatically passed into the category of the weak, and already the weak

simply could not fly on it. (64) The opinion expressed in post-war memoirs is fully confirmed by pre-war and wartime documents. Yes, in

The report of the headquarters of the Air Force of the Western OVO dated May 15, 1941, the process of mastering MiGs in the 9th Air Division is described as follows:

“Due to the complexity of the MiG-1 and MiG-3 aircraft, the difficulty of working on them, a number of pilots had a very unhealthy mood in relation to these aircraft. For example, after Major R. crashed the car, junior lieutenant K. said: “If such an experienced pilot as R. crashed the car, then God himself ordered us.” Lieutenant S. said: “You don’t fly into this car for a long time, you’ll still crash.” It should be noted that the existing flight accidents intensified these sentiments ... "[77] In the report of the command of the 20th Air Division (Air Force of the Southern Front) compiled in the fall of 1941 (the exact

date is not indicated)" Causes of accidents and disasters "we read:

“The aircraft is overly sensitive to stalling into a tailspin, especially during a sharp dump from an attack and in air combat. Involuntarily I corkscrewed almost the entire flight crew on the MiG-3 aircraft, right up to the regimental commanders. Spins at low altitude ended in disaster.”[78] Maybe the MiG-3 could find its "niche" as a high-altitude air defense

interceptor. With such a variant of combat use, its main advantage would be most effectively used - its enormous speed at high altitude, which makes it possible to intercept enemy bombers at a line that is safe for the defended object. On the other hand, the high qualification of air defense pilots and basing on large stationary airfields with concrete runways to some extent could mitigate the manifestation of the main shortcomings of the aircraft: difficulty in piloting and high landing speed. Poor horizontal maneuverability also does not become a serious obstacle in the process of intercepting a heavy and clumsy enemy long-range bomber. However, no "traces" of such a specialization of the MiG-3 are found. That is, in all popular books and newspaper articles this aircraft is not called anything but a high-altitude interceptor, but in reality there was nothing like it on the eve of the war.

The city and port of Odessa is covered by the 69th IAP on the I-16, and 122 MiG-3s as part of the 20th mixed air division are deployed near the Romanian border in the Chisinau-Balti area. In the Kiev Special Military District there are 1-85 MiG-3s, of which there are zero in the 36th Kyiv Air Defense Fighter Division. Most of the MiGs are part of the 15th mixed air division, deployed at the very tip of the Lvov ledge. Exactly the same picture in the neighboring Western OVO. The 43rd Fighter Division, covering the most important railway junctions (Baranovichi, Orsha, Mogilev, Minsk), is armed only with donkeys and seagulls, and 237 MiGs in the 9th mixed air division are concentrated on the very tip of the Bialystok salient. The Baltic OVO - 139 "migs", but at the same time, the air defense of the city of Riga is provided by the 21st IAP on the I-16, and 116 "migs" are located in the Kaunas area, as part of the 8th mixed air division attached to the 11th army. Even in the Leningrad Military District, “MiGs” are not found at all as part of the 3rd and 39th Fighter Divisions deployed near the “second capital of the USSR” (they are armed with “donkeys” and “seagulls”), but near the border with Finland in the Vyborg region (118 units as part of the 5th Fighter Aviation Division) and Kexholm (45 units as part of the 153rd IAP).

It is quite clearly seen that they planned to turn the MiG-3 into the main (which is reflected in the gigantic planned production volume) front-line fighter, that is, to use it in exactly the way when the main shortcomings of the aircraft manifest themselves in the most striking way, and to use the advantage in high altitude speed is almost never possible. In reality, everything turned out even easier. The “MiGs” concentrated on the border airfields remained there, and in the summer of 41, the main “workhorse” of the Soviet Air Force became, pardon the inappropriate pun, the well-deserved old “donkey”. Subsequently, the air regiments that

survived the border battle began to rearm with three types of fighter (MiG-3, LaGG-3, Yak-1), and some managed to rearm twice during the second half of 1941. The accumulated combat experience has shown that the MiG-3 in this "troika" is the worst. Meanwhile, the war was gathering its “harvest”: the number of pilots with relatively good pre-war training was inexorably declining, and

young sergeants, who, according to Zakharov, “simply could not fly on the MIG”. The last and decisive blow was dealt by the evacuation of aircraft engine plant No. 24 and the deployment of a large-scale production of the AM-38 engine for the Il-2 attack aircraft. The AM-35 was taken out of production, and after it, at the beginning of 1942, aircraft plant No. 1 stopped producing the MIG. Until the very end of the war, the so-called Mikoyan Design Bureau could not launch anything else into the series. That was the discouraging result of the Great Races.

1.5. Gasoline and people

After such a protracted conversation about aircraft, engines and factories, it's time to finally move on to discussing the main component of military aviation. "The best plane is the plane with the best pilot in the cockpit." This rule is for all time, and it was all the more true in the era of World War II, when the level of automation in the processes of aircraft control, navigation, target detection, and weapon control was very low (or simply zero). Aerobatic, tactical, shooting training of pilots - this is what decisively determined the final effectiveness of the "man-aircraft" system. These indisputable (and, moreover, quite trivial) truths do not, however, provide an answer to the extremely difficult question of choosing a quantitative measure of this very “pilot training”. It would seem, what can be difficult in such a question? There is no superfluous

preparation... Alas, everything is much more complicated. In full accordance with the laws of dialectics (“negation of negation”, as we were taught at the institute), the effective use of the “material part of aviation” (this military term will now be increasingly encountered on the pages of our book) is possible only with highly qualified pilots, whose training requires such a colossal expenditure of material resources, within which it becomes almost impossible to create and update the "materiel".

Now let's move on from quasi-philosophical reasoning to simple and concrete arithmetic.

As a first approximation, let's take the figure of 150 hours. Such an annual flight, by the standards of the 1930s and 1940s, could be considered as meeting the requirements for sufficiently intensive training and maintaining a high qualification of a pilot (in particular, by order of the People's Commissar of Defense of the USSR No. Red Army was set at 160 hours).[79] The resource of a typical aircraft engine of that era was –

about 100 hours (note, "typical", and by no means only Soviet).

After the resource was exhausted, the engine could theoretically be sent for overhaul, and after a well-executed repair, put it back - if not on a combat, then on a combat training aircraft. Suppose that a quality overhaul added another 50 hours of "life" to the motor. Even with all these assumptions, which are by no means obvious within the framework of strict aviation standards, to maintain the proper level of flight training of one fighter pilot, one aircraft engine per year must be used up (we will keep silent about the costs of training the pilot of a heavy 4-engine bomber for now).

And this is just the beginning of a long list of expendable material resources. The motor itself does not work, it needs fuel. A typical aircraft engine of that era consumed about 0.3 kg of gasoline per hour per hp. power. And this means that even a light single-engine fighter with a 1000 hp engine. (practically all Soviet, German, French, British and other fighters of the early 40s fall into this category) consumes 300 kg of gasoline in one hour of flight. Or 45 tons per year (with the above flight time of 150 hours). Two railway tanks of that time.

Is it a lot - one engine and two tanks of aviation gasoline? Not much at all - if the task is to train one pilot. Or a hundred pilots. But the requests of Comrade Stalin were expressed in completely different figures. By the beginning of 1938 (i.e., a year

and a half before the start of the World War), 9,200 pilots were trained in the system of flight schools and schools of the Red Army Air Force (not counting other aviation specialists - navigators, radio operators, gunners-bombers).[80] On November

5, 1940, the Politburo of the Central Committee of the All-Union Communist Party of Bolsheviks approved Decree of the Council of People's Commissars No. 2265-977, according to which 32.5 thousand pilots were to be trained during 1941 and by the end of the year to bring the total number of flight crews of the Soviet Air Force to 60 (sixty) thousand. At the time of this decision, the Red Army Air Force already had 37,558 pilots.[81]

Strictly speaking, the discussion of the problem can be completed on these figures. It is impossible to train 32,000 military pilots in one year. No economy can withstand such pressure. Yes, you can assign titles, issue the appropriate form and name

future suicide bombers "Stalin's falcons". This is possible, but 32 thousand aircraft engines and 1.5 million tons of aviation gasoline (taking into account the training of bomber crews, this figure will become two times more) in the Soviet Union was not, not to mention the fact that gasoline was also needed for combat units , and the produced engines (the production plan for which in 1941 was completed by less than half!) Was barely enough to support the grandiose program for the production of new aircraft. The task set was in such a blatant discrepancy with the real possibilities of the country that it is time to raise the question of the mental health of that person who was called the "Politburo of the Central Committee of the All-Union Communist

Party of Bolsheviks." Moreover, if the “luxury” of spending 30 thousand aircraft engines (and, taking into account the training of bomber pilots, even a much larger number) for flight training was unbearable for the USSR economy for reasons that can be called objective, then the situation with the provision of the Soviet Air Force (Air Force as a whole , and not just flight schools and colleges) with aviation gasoline looks completely surreal. The country, which at that time had the largest oil production in the entire Old World, kept its aviation on the strictest "starvation ration".

Since the development of the Caspian oil-bearing region (Baku), Russia has confidently taken the position of the world leader in oil production. Thus, in 1904, 90% of all world oil production fell on two countries: the USA (13.8 million tons) and Russia (10.1 million tons). The rest of the world then produced ten times less than this pair of leaders. At the turn of the 1930s and 1940s, oil production in the United States exceeded 160 million tons, in the USSR about 31 million tons were produced; the closest competitor in the Eastern Hemisphere (Iran) produced three times less. Oil production in Romania was five times less than in the USSR (5.5-6.5 million tons), and the supply of Romanian oil to Germany never exceeded 2.5-2.8 million tons. Germany itself - even taking into account the fields of Austria, the Czech Republic, Poland and Yugoslavia - produced no more than 1.4-1.6 million tons of oil per year.

It is difficult to say what, looking at these figures, should be more surprising: whether Germany got involved in the World War against a coalition of three world powers (the British Empire, the USSR, the USA) and was able to hold out for several years before being defeated and

forced to capitulate, or to the fact that, with the production of 31 million tons of oil per year, Soviet aviation was without fuel.

The production of high-octane aviation gasolines (B-74 and B-78) – It was worth 0.072 million tons in 1938 and 0.142 million tons [82] [83] in 1939. occupied by two siblings (L.M. and M.M. Kaganovichi), but even such a close relationship did not make it possible to coordinate the needs of aviation with the production capacities of oil cracking. Only to

In 1941, the planned target (actually unfulfilled!) for the production of high-octane aviation gasoline reached 0.45 million tons per year.[84] The planned (but never achieved in reality) level of accumulation of mobilization stocks of aviation gasoline (and taking into account the needs of the Navy) was supposed to be only 234 thousand tons by April 1, 1941 (131 thousand tons of B-74 and 103 thousand tons of B -78). [85] What

do these numbers practically mean? In a

multi-page report of the headquarters of the Air Force of the Western OVO dated May 15, 1941, “Calculation of one refueling for units of the ZapOVO Air Force (without formations of 1941)” is given. [86] There are a lot of figures in the document, and it ends with a statement that the available “in units” (this is an important clarification) fuel supply “averages 2.3 refuelings for each regiment.” Frankly, I did not immediately believe this and used a calculator. No, that's right: without taking into account the emergency supply of gasoline (another important clarification), gasoline could only be enough for 2.3 sorties of the entire aviation of the district (the future Western Front). It should be noted that the authors of the reports state this fact, dooming the aviation of the front to an imminent and inevitable defeat, with the icy calm of an outside observer, without any assessments and suggestions ... reconnaissance, reserve, sanitary, training units and subunits, and even leave two regiments of heavy (and very voracious - one gas station weighs 9416 kg) TB-3 on the ground, then the available 14.47 thousand tons of gasoline could be enough for 8 sorties.

After these 8 sorties, all that remained was to wait - or the moment when the German workers and peasants would rise up against the yoke

capital and turn their bayonets against the exploiters, or the fuel trains from the district or central depots. But is there gasoline there?

The entire group of Soviet aviation in the Western theater of operations (Air Forces of five districts and two fleets) included (rounded to hundreds) 4800 fighters and 3500 bombers, including 1000 DB-3s (heavy four-engine TB-3s are not taken into account in this case) . Based on the weight of one filling indicated in the above "Calculation" (326 kg for a fighter, 945 kg for a light bomber, 2880 kg for a long-range DB-3), we get a total figure of 6.8 thousand tons. That is how much one refueling of all aircraft weighed.

Comparing this figure with the planned (but never actually achieved!) volume of mobilization reserves (234 thousand tons), we come to the conclusion that the stocks of high-octane gasoline accumulated in the country could be enough (without taking into account the needs of all other consumers) for 34 aviation departures active army. For one month of intensive combat work. In the future, it remained only to rely on the current production of aviation gasoline. Leaving aside all the issues related to the delivery of explosive cargo over thousands of kilometers (and the possible loss of gasoline as a result of enemy air strikes), we get the number 5.5. Five and a half. One flight in six days. It was 5.5 refuelings per month that could have been enough for the production of aviation gasoline planned for 1941 (450 thousand tons per year, 38 thousand tons per month).

I hope the attentive reader has already noticed that our calculation took into account only the actual - as of June 22, 1941 - the number of Soviet aviation of the "first echelon", but after all, Comrade Stalin planned the deployment of the Red Army Air Force as part of 343 air regiments with 22,170 combat aircraft (not counting another 10,457 aircraft in reserve, as part of auxiliary units and military educational institutions). On what kind of gasoline and how many times could this armada take to the air, even if “a miserable 8300 aircraft” were provided with gasoline for two or three weeks of active hostilities? The incredulous reader is

probably already ready to ask the following three questions: can such an amateurish calculation be trusted? How in

In this case, did Soviet aviation fight for four years? And where did the oil produced in Baku go?

Let's go in order of the questions asked. The amateurish calculation, most likely, embellished the harsh reality. A calculation made by military specialists (“Mobilization application of NGOs for high-octane gasoline for 1941”) determined the annual need in the amount of 3.64 million tons of high-octane aviation gasoline per year (2,656 thousand tons of B-78 and 985 thousand tons of B-74). (72) In comparison with this figure, the planned volume of annual production (0.45 million tons) was only 12% (according to B-78, it was 7.5%). That is, the “gasoline crisis” was approaching the

stage of a “gasoline catastrophe”. Soviet aviation nevertheless flew and fought. On what? The Germans "helped" to provide the actions of the Soviet Air Force with aviation gasoline. By July 10, 1941, less than two thousand serviceable aircraft remained in service (1824 units in the Air Force of five fronts). By October 1, the Soviet Air Force had only 1,166 serviceable aircraft.[87] Yes, and these aircraft, which remained nominally in service, were used with very low intensity. For 12 months (fr

1941 to July 1, 1942) 168 thousand sorties of fighters, 70 thousand bombers and 16 thousand attack aircraft were carried out. (216) An average of 700 flights per day. As a result, aviation

gasoline became "a lot", even "more than necessary". About 180 thousand tons are enough for the above number of sorties, and in fact, in the first 12 months of the war, the Soviet Air Force used up 520.4 thousand tons of high-octane aviation gasoline! (146) In the future, the number of aircraft, the number of sorties and the required consumption of gasoline began to increase steadily. If, as of January 1, 1942, the total weight of one refueling of the aircraft of the active army was 1.57 thousand tons (which suggests the presence of about 2–2.2 thousand combat aircraft in service), then by June 1, 1944 it increased to 5.54 thousand tons, and by the end of the war (on May 1, 1945) it amounted to 6.42 thousand tons (i.e., it almost equaled the weight of the refueling given above on June 22, 1941).[88]

In this period of the war, the Americans helped somewhat alleviate the severity of the "gasoline crisis". That's right - "smooth out a little." No more. There was a desperate shortage of gasoline for the intensive use of available aviation forces. So, during the biggest

During the strategic offensive operation "Bagration" (the defeat of the German Army Group "Center" in July - August 1944), the Soviet Air Force could use up only 9 refuelings per month, and during the Vistula-Oder and Berlin operations that ended the war, the consumption of aviation gasoline was only 7.2 refills per month.[89] In other words, one plane could take to the air on average

no more than once every four days - and this is in the midst of an offensive!

On the other hand, one should not underestimate the contribution of the allies - without them, the Soviet Air Force would not have reached Berlin at all. The arithmetic here is very simple.

In total, during the war, 3 million tons of aviation gasoline were spent (for all needs and by all departments) (2998 thousand tons - to be exact). Where did he come from? 720,000 tons of high-octane gasoline are directly American deliveries. Another 450,000 tons of imported high-octane (95 to 100 octane) components were used for blending with Soviet-made low-octane gasoline; another 1,117 thousand tons of aviation gasoline were obtained in this way. The remaining 1161 thousand tons of aviation gasoline (slightly more than one third of the total resource) were produced by Baku factories. True, comparing the necessary for this production

quantity tetraethyl lead (according to the B-78 this formula, the anti-knock additive was 4 cc per liter) with the volume of American supplies (6.3 thousand tons), we find that they completely covered (and even blocked) the needs of Soviet oil refineries.[90] The most difficult is the question of the fate of the oil produced. That is, the answer is known, but the reader is unlikely to

believe in it ... From the depths of the earth, not transparent light gasoline, but a heavy black liquid, springs like a fountain. Direct distillation of oil allows you to get no more than 15-20% of gasoline, and low-octane. After the selection of light oil products (gasoline, kerosene, gas oil), fuel oil and tar remain. In 1914, only 74% of the produced oil was processed in Russia (the rest was used as boiler fuel), and 58% of the processed oil was converted into fuel oil. The figures given in the source I used are accompanied by the following comment: "These data eloquently testify to the predatory destruction of valuable raw materials." Let's not argue with

professionals, let's take into account that 74% of processing is "predatory destruction of valuable raw materials." In the

period 1941–1945. 110.7 million tons of oil were produced in the USSR. Of this amount, 16.6 million tons of gasoline (that is, less than 15% of the volume of oil produced), 21.3 million tons of other light oil products and 32.8 million tons of fuel oil were produced. Thus, only 64% of the produced oil was processed, and 46% [91] , [93]) Since fuel oil huge amount of extracted, but was burned [92] from production. (a unprocessed oil was nowhere to be found (oil engines, as well as oil boilers, are long gone), then the oil was stored in “open natural storages.” Translated from Russian into Russian, this means that the produced oil in huge quantities were poured onto the ground - into ravines and lakes, poisoning the soil and groundwater in the vicinity of Baku for many decades to come. In the end, all the “open storages” were filled, and then the leadership remembered that oil could be “stored” where it was extracted from, underground. Head of the State Planning Committee of the USSR) writes in his memoirs under the traditional title "Business of Life":

“All the tanks were filled with oil. There is nowhere to put the oil... A paradoxical situation has arisen: on the one hand, there is nowhere to put the oil, and on the other hand, there is an acute need for it at the front (oh, Comrade People's Commissar is mistaken, no one needs crude oil at the front. - M.S.)... And in In this situation, an incredible proposal is made from the point of view of common sense: to extract oil, to drive it through a pipeline to oil refineries in the "Black City"; remove the “top” (gasoline) there, and send the rest back and pump it into the reservoir.

Doctor of Geological and Mineralogical Sciences, Professor Ch.A. Sultanov in his book "Oil" gives the following commentary on this action:

“This proposal, monstrous in its negative consequences, was sanctioned as the only possible one. A special well was allocated and about half a million tons of stripped oil was pumped through it for storage

directly in the reservoir from which it was mined. Further, N. Baibakov writes: “In the future, we produced this oil again.”

No, Mr. Baibakov, not only this, degassed and oxidized, oil was not produced, but the reservoir into which it was pumped was practically

ruined…”[94] As for the civilized (as opposed to “predatory extermination”) technology of oil refining , then it was developed back in 1891 by the great Russian engineer V.G. Shukhov. As often happened, the Americans were the first to implement the invention on an industrial scale, and now this technology is known throughout the world under the name "cracking" (from the English verb "to crack" - to chop, split). In parentheses, we note that the court (American, not Soviet-proletarian) recognized the priority and patent rights of Shukhov. [95] The essence of the cracking process

is that at high temperature and high pressure, heavy fractions of oil are split. There are various types of cracking processes: thermal, catalytic, high-temperature (pyrolysis); the yield of gasoline is from 40 to 70% of the volume of primary raw materials. Another type of cracking is "reforming". In this case, low-octane light fractions are used as raw materials for "splitting"; It is with the help of reforming that aviation gasolines are produced. Of course, Comrade Stalin, overloaded with a thousand other things, could not remember all these tricky words.

Theoretically, this should have been done by his fellow assistants, selected by him according to the criterion of personal loyalty from among the meanest of the poorest. Alas, in this particular case, the Kaganovich brothers (in whose biography it is impossible to find at least seven years of high school for two) did not succeed in reconciling the insane production of aircraft with an equally insane overproduction of oil - in the absence of adequate cracking capacities.

Returning to the topic of this section - the level of training of Soviet Air Force pilots on the eve of the war - I want to warn the reader against two hasty conclusions. Firstly,

the very concept of training a large number of medium-skilled pilots must be assessed as the only true one.

for that era. The other extreme - relying on a meager number of pilots of the highest class - inevitably led to defeat in a protracted war with a serious enemy. A clear example of such a vicious extreme can be the history (the history of defeat and destruction!) of the Japanese Air Force. The Land of the Rising Sun trained its pilots with exceptional, truly Japanese thoroughness; by no means a rare exception were fighter pilots with a flight time of 800 or more hours. Here, however, it should be noted that the Japanese

command simply had no other choice. A significant part of aviation was planned to be based on aircraft carriers; landing an aircraft on a tiny “patch” of a ship’s deck is a difficult and dangerous task even today, even with aircraft “stuffed” with flight automation systems, vibration dampers in control channels, laser landing visualization systems and other marvels of technology. In the 1930s and 1940s, it was dangerous to let a pilot of low or even average qualification into carrier aviation - he could destroy not only himself and his plane, but also send an expensive ship to the bottom of the sea. Japanese aces forever made the whole world remember the word "Pearl Harbor"; on their very, very medium-sized aircraft, they

successfully fought against the powerful and well-armed American Corsairs and Hellcats. It all ended when, against a handful of pilots of the highest qualification, rich America put up huge, many thousands of aviation groups. Japan (even before the use of the superbomb) was destroyed and burned to the ground by massive raids by the American "Flying Fortresses" (160 kilotons of bombs were dropped on the Japanese islands, 767 thousand buildings were destroyed in Tokyo). The country was forced into virtual surrender before even a single American soldier set foot on the land of the Japanese Islands, a lesson in history that deserves serious attention. In the autumn of 1940, England was also on the brink of the abyss, whose Air Force on the eve of the “Battle of Britain” had less than 1,500 fighter pilots at its disposal. Fate, the iron will of

Churchill, the courage and resilience of the population, as well as for the first time in military history, a practically implemented system of centralized

air defense fighter aviation, based on early warning radar detection of enemy aircraft, saved the then recalcitrant island from imminent defeat. However, it was not very reasonable to build a strategy for the development of the Air Force, counting on the mercy of fate. The strategy adopted

in the USSR to create a large air force and train many thousands of "flying infantry" was in principle correct. The problem that turned at the turn of the 30-40s. during the most acute crisis, there was an inability to find a "point of reasonable sufficiency" - a depressingly low level of managerial culture did not allow coordinating and commensurate the production of aircraft, the production of aviation gasoline and the scale of pilot training. It is easy to see that, having 30 million tons of oil produced per year, the Soviet Union could increase the production of high-octane gasoline by an order of magnitude. All that was required was a reasonable redistribution of material and human resources; in particular, it was necessary to increase the production capacity for cracking oil instead of building dozens of new aircraft factories to produce tens of thousands of new aircraft that had nothing to refuel. Secondly, one should take into account

the temporal dynamics of the development of the "gasoline crisis" and the degree of its influence on the level of training of Soviet Air Force pilots. The "explosive" growth in the number of the Soviet Air Force and the transition to engines with powerful supercharging and a high compression ratio (AM-35A, M-63, M-105) occurred in 1939-1941. Prior to this, there were much fewer aircraft, and the engines used (M-25 on the first modifications of the I-16, M-100 on the first modifications of the SB, AM-34 on the heavy TB-3) did not require such high-octane gasoline. Aviation gasoline B-70 suitable for them with an octane number measured by the "motor method" equal to 87 (which, by the way, corresponds to German aviation gasoline of the mid-30s), was produced in much larger quantities: 406 thousand tons in 1938 and 429 thousand tons

in 1939. Finally, we should not forget that for several thousand Soviet pilots, local conflicts of the second half of the 30s (Spain, China, Khalkhin Gol) and, of course, became the "school of flight and combat training" same, the "winter" Finnish war, during which

Soviet aviation carried out more than 100,000 sorties. For example, one of the active participants in the "winter war" was the 1st mine-torpedo air regiment of the Baltic Fleet Air Force. The navigator of the regiment (later Lieutenant-General of Aviation) P. Khokhlov writes in his memoirs: “Previous studies and military operations gave their results ... Sniper crews for bombing and mine setting appeared in the regiment. On average, each crew flew more than 200 hours in 1940.”[96] Both original documents and memoirs testify that, starting from the level of a squadron commander and above, it was difficult to find a pilot in the Soviet Air Force who had no experience of personal participation in hostilities, orders and medals on his chest. The notorious "three hours of training raid - and into battle", with which unscrupulous journalists fool the gullible public, has nothing to do with the actual state of affairs.

In concrete figures and facts, the situation was much more complex and ambiguous.

Contrary to a widely and successfully propagated myth, the accident rate in the Soviet Air Force was very low. In 1934, there were 243 accidents and 68 catastrophes, in which 107 people died; in 1935 - 249 accidents and 56 catastrophes, in which 86 people died. That is, on average, about 300 aircraft crashed per year (with more or less severe consequences). Moreover, according to the data of the Intelligence Directorate of the Headquarters of the Red Army, in 1934, one disaster in the Soviet Air Force accounted for almost twice as many flight hours as in British aviation.[97] Five years later, even in the conditions of a multiple increase in the number of Soviet aviation, the accident rate increased by no more than 2–3 times, to the level of 600–900 aircraft per year.[98] Moreover, these widely quoted figures (“every day, on average, 2–3 aircraft die in our country in accidents and disasters, which amounts to 600–900 aircraft per year”) are taken from the text of the Resolution of the Politburo of the Central Committee on the removal of P. Rychagov from the post of head of the Red Army Air Force [99] . Such documents had their own "style" worked out over many years and their own, not always reliable statistics. Nevertheless, we will take these figures as a basis: 50–75 accidents and catastrophes per month. Is it a lot?

In the Luftwaffe for the period from September 1, 1939 to June 22, 1941, 1,924 people died and another 1,439 were wounded while training in flight schools. In addition, in combat units during accidents catastrophes [100], a total of 1609 people died and 485 and people were injured. — an average of 248 people per month. per month, not per year. And this despite the fact that the number of Luftwaffe and the number of cadets in flight schools in Germany in these years were many times less than in the USSR. However, even a fairly high accident rate in the Luftwaffe cannot be compared with what happened in the French Air Force, which was reanimated with feverish haste

During the eight months of the “strange war” (from September 1939 to May 1940), French pilots completed 10,119 sorties (they should hardly be called “combat”); in rare skirmishes with German fighters and reconnaissance aircraft, they lost 81 aircraft (shot down or damaged) and announced 88 enemy aircraft destroyed. Figures that are quite consistent with the general nature of the sluggish "strange war" on the Western Front. That's just the total loss - taking into account accidents and disasters - amounted to 914 aircraft.[101]

In other words, every twelfth (!) flight ended in a plane crash. For comparison: in the above-mentioned report of the headquarters of the Air Force of the Western OVO dated May 15, 1941, it is indicated that the average flight time per damaged aircraft was 844 flight hours - an excellent figure for that era.[102] We should not forget that the number of training flights, as a rule, is greater than the number of flight hours.

Returning from the Western Front to the Eastern, we can state that in the six months of 1941 the Luftwaffe lost in accidents and catastrophes (according to various sources) about 1350-1700 combat aircraft, i.e., about 225-280 aircraft per month - significantly more than the large Soviet Air Force lost in 1940. The total flight hours of German aviation on the Eastern Front, unfortunately, is unknown to me. With an accuracy sufficient in this context, it can be assumed that the Luftwaffe grouping, in which the number of serviceable aircraft was reduced from 2 to 1.5 thousand aircraft, could carry out no more than 400 thousand sorties, which, when converted, gives a certain figure of the order of 250–300 flight hours per accident or catastrophe.

The accident rate in the Soviet Air Force was very, very low. This is a fact that you just need to know. It is much more difficult to give an adequate assessment of this fact. The low accident rate can be due both to the high level of pilots' flying skills and to the unacceptably low, "sparing" mode of combat training. Departure departure strife - you can twist wide circles over the airfield, or you can perform five dives in one training flight; accordingly, both the probability of accidents and the training of pilots will be fundamentally different. There are good reasons to believe that many commanders of the Soviet Air Force - from top to bottom - took the path of minimizing risks to the detriment of preparing aircrews for war.

On April 21, 1941, Lieutenant General Proskurov, Assistant Commander-in-Chief of the Air Force for Long-Range Aviation, wrote to Stalin. There, in particular, it was said:

“... Experts believe that under the existing rules of flight service in the Air Force, they will not be able to fulfill the tasks assigned to them - the restrictions are too great. They visited several units of the Air Force and became convinced that the commanders were too afraid of responsibility for flights in difficult weather conditions and at night ... The interests of the case require an even greater increase in the intensity of flight work, tirelessly improving the organization and order in the Air Force. Serious warnings and punishments, written down in NPO orders, will force the command staff of the Air Force to catch up, but at the same time they can increase the fear of accidents and thereby slow down the pace of quality

training. Dear comrade. Stalin, in our history of aviation there was no case when a commander would be tried for poor preparation of a unit subordinate to him. Therefore, people involuntarily choose the lesser of two evils for themselves and reason like this: “I will be scolded for shortcomings in combat training, well, in the worst case, they will be demoted by a step in my

position, and I will go to court for accidents and disasters.” Unfortunately, commanders who think this way are not isolated. Such sentiments exist and will continue to exist until the same demands and responsibility are made for the combat readiness of the subordinate unit as for

A serious analysis of the content and effectiveness of the flight training of Soviet Air Force crews requires a separate monographic study. For now, we confine ourselves to a few specific examples.

The largest in the Air Force of the Western OVO was the 9th mixed air division (four fighter and one bomber regiment). 303 fighters and 49 bomber crews were classified as "flying independently in a combat aircraft" in the report of the district air force headquarters.[103] For four months (from January to April 1941 inclusive), the total flight time was 4335 hours, which gives only 12 hours per crew (in fact, even less, because in addition to 352 "flying independently" there were 64 more young pilots, whom commissioned). The situation with the actual combat training is quite bad.

According to the reports (although it is hard to believe in this), the 13th BAP did not carry out a single bombing exercise. Four fighter regiments in four months conducted 68 training air battles and 431 aerial firing (an average of 1.3 firing per fighter).[104][105] And what is most surprising - with such a level of flight and combat training in the division, there is "excessive self-confidence among the flight personnel, overestimation of the strength of the pilots by the leadership, the absence of daily exactingness in the strict implementation of the Instructions and Regulations ... There is some arrogance in the work of the headquarters ..."[106] In the light of these facts, the story of the lightning-fast defeat of the 9th SAD on the very first day of the war begins to be perceived in a new way ...

In the neighboring, much smaller (two fighter and one bomber regiment) 11th SAD "fly independently on a combat aircraft" 123 fighters and 46 bomber crews.[107] For the same four months, the total flight time amounted to 30 hours, i.e. 18 hours per crew. 147 training bombings (3.2 per crew), 327 training air battles (2.7 per pilot), 264 aerial firing (2.1 per fighter) were carried out.

[108]

Things are a little better in the 10th SAD (two fighter, one bomber and one assault - on I-15bis biplanes - regiment). In this division, the number of training bombings amounted to

an average of 4.8 per crew, the number of training firings - 3.7 per fighter pilot or attack aircraft.[109] In other words, about one combat training exercise (with shooting or bombing) per crew per month! However, there is

nothing particularly surprising. If the engine needs gasoline to work, then machine guns need cartridges to fire. It would seem that something, but the production of cartridges in Russia / the USSR was long and well established. Nevertheless, in the section “Providing fire training”, the headquarters of the Western OVO Air Force states: “At first there was a telegraphic order for permission to spend the 1940 standard, which is 100 thousand ShKAS cartridges per regiment, and in April a standard was received allowing for the 1st half a year to use up 937,000 ShKAS rounds, which is only 27,000 rounds per regiment.”[110]

The regiments in the Air Force of the district were different, in principle it was possible to redistribute the available scarce resource in favor of fighters (although the bomber gunners also need to be taught how to shoot). If, as a first approximation, we assume that the fighter regiments got 27 thousand rounds of ammunition, then this means that on average, each of the 60 “donkeys” or “gulls” of the regiment had 450 rounds. Taking into account the rate of fire of the ShKAS, such ammunition is enough for 4 seconds of continuous firing from all four barrels. And this is for half a year of "fire training" of a fighter pilot. And this is in the border military district. Even the “norm of 1940”, which the headquarters asks to restore, is almost half as much as one full ammunition load (for example, the ammunition load of the I-16 fighter of “machine-gun” modifications was 3100 ShKAS rounds, which

gives 186 thousand per regiment). At the same time, it cannot be said that there were no cartridges for ShKAS at all. Judging by the “Reference on the availability of ammunition in the units of the ZapOVO Air Force”, in the 10th SAD there were 14.5 ammunition per aircraft, in the 11th SAD - 17 ammunition, in the 9th SAD - 29.5[111] . If there was some kind of intention and meaning in all this, then the pilots supposedly

had to learn to shoot after the start of the war, in a real air battle with the enemy ... The attentive reader, of course, drew attention to the fact that al

Western OVO refer to winter - the beginning of spring. Short daylight hours, fogs, blizzards, snow drifts - for the aviation of that era, and even based on unpaved airfields, it was practically a “dead season”. These numbers should not be used as averages. So, for example, the 123rd IAP, which was part of the 10th SAD, from March 1940 until the start of the war had a total flying time of [112] . much more 7600 hours, which gives more than 100 intense. Let's consider this using the example of the 13th bomber air division, the best air division of the district's air force in terms of pre-war combat training (the first days of the war, by the way, fully confirmed this assessment). For four

months (January-April), the total flight time in the division amounted to 3558 hours, and for May alone - 3506 hours (14 hours per crew)[113] . In May, in terms of one crew, 7.7 dives, 3 bombings, 2 aerial firings were completed[114] . So, 14 hours in the air and 3 bombings per month - and this is in the best division of the district. A full-range flight from the SB takes 3-4 hours, i.e. even in sunny May, the division did not come close to those very modest (15 sorties per month) standards for the intensity of the use of front-line bomber aviation, which were laid down in pre-war plans[115] . Although, it would seem, in accordance with the precepts of A. V. Suvorov (“hard in training - easy in battle”), in a peaceful training environment, one should have given an even greater load on people and equipment in order to accumulate some “margin of safety” for a case of unavoidable enemy opposition in a war situation ... But, maybe, everything changed in June? Yes, the changes are obvious: “Since June 1, parts of the division stopped flying due to lack of gasoline ... This situation threatens to

disrupt the implementation of the combat training plan”[116] . The combat training of flight personnel was somewhat more intensive in the 20th mixed air division of the Air Force of the Odessa District (at least one reason for this difference is clear - spring comes much earlier in Odessa). In April, two fighter regiments of the division (4th IAP and 55th IAP) completed 2815 flights with a total flight time of 1137 hours (an average of 23 sorties and 9.3 fl

April 1266 sorties with a total flight time of 790 hours, which gives an average of 21 sorties with a flight time of 13 hours per crew.[117]

"Gasoline hunger" raged even in the capital's military districts. So, in the directive of the People's Commissar of Defense of May 17, 1941, which set out the content of the decision of the Main Military Council on the results of the combat training of the Red Army Air Force for the winter period of 1941, it was noted that in the Leningrad District, combat training was limited by the lack of fuel, which was enough only 30% of the flight program.[118] On May 31, 1941, People's Commissar of Defense Tymoshenko signed order No. 0031, which stated the depressing picture of "combat training" in the Air Force units of the Moscow Military District: "... With more than 1,000 pilots in the district, only 346 bombings were carried out, of which only 191 were positive (55%); 723 shots were fired at the cone and shields, of which only 387 (50%) were positively assessed. 78 training air battles were carried out in the district ... Not a single pilot flew above 7 km, and the total high-altitude flight for the entire winter period is 45 hours. 27 min. throughout the district ... In the 23rd NAD, until May 10, there was no NZ aviation gasoline, as a result of which the aircraft were left unable to take off for several weeks ... In the 24th NAD, from October 1940 to this time, they did not even fly at night and to a height those crews who were trained to work in the air defense system back in 1940…"[119] The systematic lack of material resources for flight and fire training had another, quite predictable, "line". What were they busy with, it would be more correct to say, what could the young, financially secure[120] of a

flourishing (20-25 years old) age, who were allowed to take to the skies in a combat aircraft no more than 5-6 times a month, do?[121] Documents of political departments, the protocols of the meetings of the party organizations of the aviation regiments are filled with reports of , strong guys of the drunkenness and "self-will", about the so-called "everyday decay expressed in connection with a woman having a wife" (this is a quote),

about cases of venereal diseases and even suicides. Here is how the deputy commander of the Air Force of the Western OVO, Brigadier Commissar Listrov, describes the state of discipline in the flight units:

“... For 4 months in the 11th SAD there were 68 cases of drunkenness, 14 unauthorized absences and 1 case of desertion. A particularly large number of flight accidents and immoral acts falls on the 122nd IAP and the 285th air base. In these units, NPO orders, Statutes, internal regulations are violated at every turn ... ... Order No. 0155 characterized

that in the 161st IAP, which is part of this [43rd IAD] division, there is a collapse of discipline. By this order, the commander of the 161st IAP was removed from work, and the division commander / Major General Zakharov was reprimanded. Despite orders No. 0022 and No. 0155, the situation with discipline in the 43rd IAD did not improve, but continued to deteriorate ... In April, the number of drunkenness and other immoral phenomena increased. In May, pilot P. was killed (on May 3 of this year at 1:25 a.m. he was killed by a sentry, and in the dismissal book he was listed as having returned to the team at 1:32 a.m.). In the 162nd IAP, the commander of the regiment, T. R., in the May days, contrary to the direct order of the division commander, which generally forbids the dismissal of anyone from this regiment to the city, allowed the squadron commanders to dismiss them to the city. Then the squadrons began to dismiss both squadron commanders and their deputies for political affairs. As a result, in this regiment in the days of May there were many outrages that ended in the suicide of political instructor K ... "[122]

For the sake of truth, it should be noted that the "accusatory bias", focusing primarily on shortcomings were an integral feature of the party political documents of that era (which is probably true in principle in relation to army affairs). It is impossible not to notice that in the memoirs the situation in the same parts is described in a completely different way: “The sky above the airfield trembled from the roar of

engines. It seemed that this rumble did not have time to subside in the evening. In addition to three regiments of I-16s and a regiment of "Seagulls" in the division, which I was entrusted with command, there were quite a few training aircraft, communications aircraft - more than three hundred aircraft in total. And all this was buzzing, taking off, shooting, landing from morning to evening every day. It seemed to me that the mode of our work was not tight enough, and I hurried the staff officers and regimental commanders.

This is written in his memoirs by the former commander of the 43rd NAD, Major General G.N. Zakharov.[123] And here is a fragment of the memoirs of Lieutenant General S.F. Dolgushin, who met the beginning of the war

lieutenant in the 122nd IAP - the very one where "orders and regulations were violated at every step."

“The I-16 aircraft that we received in the regiment were the 27th and 24th series, with M-62 and M-63 engines. Literally all of them were new machines, and each pilot had: 72 aircraft - 72 pilots in the regiment. Everyone has their own car, so everyone had a large flight time in hours, and the pilots' flight training was strong. I started the war with a flight time of 240 hours (emphasized by me. - M.S.), and this is for 1940-1941 ... We flew almost every day, well, Sunday was a day off, and on Saturday we flew. [124]

However, the memoirs of Lieutenant Colonel P.I. Tsupko: “In those months on the eve of the

war, we mastered a new method of bombing from a dive in training flights ... This method was many times more effective than bombing from level flight, since targets were hit with greater accuracy, but in terms of execution technique it was much more complicated ... After each sortie we were assembled by the commanders and, on the basis of the reports of the observers and the reports of the crews, scrupulously, minute by minute, analyzed the actions of the pilots and shooters of the scorers. The landfill was located on a wasteland in Belovezhskaya Pushcha. There, the contours of tanks, vehicles, artillery batteries and just circles with crosses in the middle were drawn on the ground with lime. We bombed these ground targets with cement bombs. Gradually, from flight to flight, our skills grew, our skills were polished. By the spring of 1941, we were quite confident in this method of bombing.”[125]

Do you know

what it's about? Euo describes combat training in the 13th BAP of the 9th SAD. The same one, in the report on the combat training of which there is a dash in the column "bombing" ...

Summing up this chapter, it remains only to state that "this issue needs further thorough study." In the meantime, only two theses can be formulated with some degree of certainty:

- combat (flight, fire, tactical) training of flight personnel did not meet the requirements of the impending war; even a fairly modest combat training program

was not systematically carried out, mainly due to the lack of aviation gasoline; - on the

other hand, the real level of training was much higher than those tales about "three hours of flying" in a box, "which in the last 10-15 years have filled the pages of pseudo-historical literature.

1.6. Results and discussion

“The rise of military affairs in Russia is limited by the shortcomings of the Russian people, which cannot be eliminated either with the help of money or through organizational work. These shortcomings lie in the unwillingness to engage in any methodical work, in an insufficient sense of duty, fear of responsibility, lack of initiative and a complete inability to correctly determine and use time ... ”[126] This fragment from the —

memorandum of the German General Staff, compiled in 1913, needs, in my opinion, with only one clarification: the words “Russian people” should be understood not as a collection of blue-eyed blondes of East Slavic “blood”, but as that multinational and multi-confessional people that has formed over five centuries around the center in the Grand Duchy of Moscow. The social revolution of 1917-1933 carried out with unprecedented brutality. only exacerbated the centuries-old problem of Russia, which in the 19th century the writer A. K. Tolstoy formulated in a poetic line: “The country, as it is, is rich / Only there is no order.” Neither the vast raw materials wealth of the country, nor the huge masses of

labor force (the cost of which, through merciless terror, was reduced to the level of maintaining the simple physiological survival of the worker, and in some situations even lower), nor the surprisingly short-sighted policy of the industrially developed countries of the West, which handed over to Stalin the latest military technologies, could not fully compensate for the lack of the main thing - effective management. The Stalinist empire, which rose with a frightening roar, was a huge brontosaurus with a tiny head, an underdeveloped brain and legs that buckled under the exorbitant weight of its own carcass.

Stalin's "nominees", selected on the basis of personal and "ideological" devotion, even in the person of their best representatives, were capable of very intensive, but unproductive work. There were several reasons for this. A systematic, integrated approach to

consideration and solution of problems in principle is difficult to reconcile with the Marxist-Leninist absolutization outlook, founded on of individual particulars and dogmatic scholasticism. The level of general education and culture of "collective Stalin" was also unacceptably low (simply implausible by today's standards).

Finally, the so-called "planned economy" and "centralized supply" required extraordinary efforts to solve the simplest problems. That is, if in the old days the commander of a hussar regiment, in which there were no saddles and bridles, was required to show "initiative" that did not go beyond the simplest actions (get a banknote from the regimental cash desk and send a batman to the market), then the Soviet commander had to either lead many months of correspondence with a dozen instances, or to establish a semi-underground production of bridles in the regiment. A textbook example of the actions of the commander of the 9th mechanized corps of the Kiev OVO, who on the first day of the war, through armed robbery, solved the previously insoluble issue of providing the corps with vehicles (the future Marshal Rokossovsky captured the district motor depot in Shepetovka and put his 131st motorized division on the "expropriated" trucks there) clearly shows what level of "initiative and sense of duty" was required from the Soviet military leader. German officers never dreamed of such a thing... With regard to the tasks and problems of creating the Air Force, these general considerations were realized in the following. The Soviet Union entered the air arms race earlier than all other great powers and achieved outstanding successes by the mid-1930s. Numerous military aviation was created, outnumbering any coalition of possible opponents of the USSR and equipped with

magnificent (by the standards of its time) combat aircraft.

The rapidly created superiority began to melt just as rapidly after other future participants in the World War joined the arms race. Within 2–3 years, Germany, England, and the United States caught up with the Soviet Union in terms of the performance characteristics of aircraft produced and began

reduce the gap in the size of the Air Force. The actual loss of the leadership of the Soviet military aviation in the subjective perception of Stalin was reinforced by reports, the erroneous (unscrupulous? dramatically sabotage?) intelligence leadership of the People's Commissariat of Defense and the aviation industry, in which both production capabilities and the achieved strength of the German Air Force were repeatedly overestimated. Stalin found a way out of the current (rather in his mind than in reality) crisis situation in concentrating to

an even greater extent in one (own) hands the solution of all major, minor and smallest issues of the development of aviation. In the aviation industry and science, specific "Stalinist methods of leadership" were implanted with unprecedented intensity, that is, rude administrative pressure, instilling an atmosphere of fear, sycophancy and bloody intrigues. As a result, the established scientific and design teams were destroyed, the best specialists were physically destroyed (or permanently removed from creative work), the natural process of improving and updating the Soviet Air Force aircraft fleet was slowed down for 2-3 years - and this happened just on the eve of the war. The inevitable prohibitive centralization of the decision-making process was aggravated by the fact that at the center of the control system was a person who did not even have a completed secondary education (not to mention higher technical education), who did not have any personal experience in piloting an aircraft (as was the case in Germany, where the development of aviation was led Goering and Udet - two outstanding

aces of the First World War), nor the experience of personal participation in aircraft production. As a result, hasty, thoughtless, and sometimes completely inexplicable decisions from the standpoint of common sense were made. In the end, a completely paradoxical situation developed, almost indescribable in normal human language: a lot of planes, a lot of pilots, a lot of airfields, a lot of aircraft factories, a lot of aviation schools and flight schools. At the same time, there is a shortage of aviation gasoline and tankers, hoses and funnels, batteries and autostarters everywhere. Aircraft armed with the fastest

aviation machine guns, but at the same time, fire training of pilots is limited by meager consumption rates of cartridges. Quite modern dive bombers have been created, but at the same time, combat training of crews is reduced to several familiarization flights. There are the latest anti-aircraft guns, but there are no shells for them; there are unique on-board systems for pressurizing fuel tanks with inert gas, but there is no nitrogen at airfields; there is a huge aircraft fleet, but there are no tractors for clearing snow from airfields; there is a gigantic network of flight schools, but even reduced training programs are not provided with aviation

gasoline ... In this state, the Soviet Air Force approached the moment when the true state of affairs was bound to become obvious - to war with a strong, stubborn, determined enemy.

Chapter 2 AT THE BEST

One of the most important (and, unfortunately, quite often ignored) characteristic features of the air war that began on the morning of June 22, 1941, is the extreme dissimilarity, "heterogeneity" of events and results. On the northern flank (the Air Force of the Leningrad Military District and the Baltic Fleet) a fragile lull remained in the first days, occasionally broken by reconnaissance flights; in the center (Air Force of the Western OVO) there was a lightning-fast catastrophic rout; the same, in essence, defeat, but a little more extended in time, occurred with the Air Force of the Baltic OVO; the largest aviation of the Kyiv OVO conducted quite active and even effective combat operations. The situation on the extreme southern flank of the war, in Moldavia and the Black Sea region, developed in the most favorable way for the Soviet side; it was and only here that Soviet aviation (Air Force of the Odessa Military District and the Black Sea Fleet) tried for some time to act in accordance with its own pre-war plans, it was on this theater that the losses of the Soviet side turned out to be quite comparable to the losses of the enemy.

We will begin our study with a review of the course of military operations of the Air Force of the Odessa District (Southern Front) in the period from June 22 to mid-July 1941.

2.1. Plans

It is no secret that the discussion of the issues of Soviet military planning of the period 1940-1941. has turned in our country into a kind of medieval “disputes about faith”, slightly softened by civilization, usually ending in a mass brawl, and in especially neglected cases, in a long-term war. I had the opportunity to express my opinion on the geopolitical and military-strategic plans of the leadership of the USSR in the book June 23 - M-Day and in the article Comrade Stalin's Three Plans. In this book, I will try to dissociate myself as much as possible from disputes about the "ideological and political component" and draw the reader's attention primarily to the military-operational aspects of the pre-war plans of the Soviet Air Force command, namely: - an assessment of the size of the opposing aviation group

enemy;

- the expected balance of forces of the parties;

the planned duration and (expected) - intensity, effectiveness of the actions of the Soviet Air Force.

The western (in relation to Moscow) theater of future military operations is naturally divided into northern and southern parts by a strip of impenetrable swamps in the basin of the river. Pripyat, stretching for 300 km in the direction "west - east", from Brest to Mozyr. The northern (from Pripyat to the Gulf of Finland) theater of operations in a natural geographical sense is practically a "single" zone, however, according to all pre-war plans, two fronts were supposed to be deployed on it (based on the troops of the Western and Baltic military districts, respectively). The

southern theater of operations is noticeably divided by the spurs of the Carpathian Mountains into two parts - Ukrainian and Bessarabian. It was also divided in the military administrative sense (into the Kiev and Odessa military districts), however, until May 1941, it was planned to deploy one huge (exceeding the other two combined in many parameters) Southwestern Front in the Southern theater of operations. Accordingly, the action plans of the Air Force of the Odessa District (th

the decision to deploy which was officially made only on June 21) were developed as an integral part of the general operational plan of the Southwestern Front. This rather strange feature of pre-war planning makes it appropriate and necessary to jointly consider two groups of documents - both related to the Odessa Military District proper, and general plans for the "big" Southwestern Front. Not later than December 1940, the headquarters of

the Kiev district prepared a “Note on the decision of the Military Council of the Southwestern Front on the deployment plan for 1940 .”[127] In this multi-page document, the tasks of the Yu-3 Air Force were described in sufficient detail. front. Thus, the headquarters of the KOVO determined the maximum composition of the enemy’s aviation grouping in the following figures: “In total, against the South-Western Front in the initial period of the war, there may be up to 10 thousand German aircraft, 2-3 thousand Italian, 2-3 thousand Romanian and Hungarian; only 14-16 thousand. Further, in the Note, a very remarkable way of determining the number of enemy aircraft was given:

“There are 57 airfields on the territory of the General Governorate (as in all Soviet documents the part of Poland occupied by the Germans was called. - M.S.); on the territory of Germany proper up to the Dresden meridian - 12 airfields and 16 sites; on the territory of the Czech Republic and Slovakia - 64 airfields and 50 sites; on the territory of Hungary - 39 airfields; on the territory of Romania - 54 airfields and 53 sites. There are 226 airfields and 119 sites in total.

When calculating the landing of up to 30 aircraft at each airfield and taking into account up to 50% of the sites as suitable for high-speed aircraft, within up to 600 km from the borders of the USSR, opponents will be able to place up

to 8500 aircraft ... "The drafters of the document assumed their own forces in the amount of" 81 aviation regiments , of which 16 dbp, 35 sbp, 27 iap, 2 cap, 1 tbp ", which, with full staffing (62 aircraft per regiment), gives about 5 thousand aircraft. That is, one and a half to two times less than that of the enemy.

With this balance of forces, it was planned to achieve following results:

“The air forces of the SWF solve the following main tasks:

1. In close cooperation with the ground forces, they destroy the manpower of the advancing enemy, massaging strikes in the main directions. 2.

Successive strikes against established bases and airfields, as well as combat operations in the air, destroy enemy aircraft. 3. Fighter aircraft cover the

concentration, deployment and operations of the armies of the front. 4. Together with naval aviation and

the fleet, they destroy the enemy's navy in the Black Sea and prevent the landing of amphibious assault forces. 5. Do not allow dropping and

landing on the territory of the front

enemy airborne assaults.

6. With powerful strikes against the railway junctions of Krakow, Kielce, Kalisz, Kreutzburg, Czestochowa, Breslau, Ratibor, Brno, Oppeln, disrupt and delay the concentration of German

troops. Tasks are solved in the following

⋯ order: 2 task. 1st day of action. Two successive raids on enemy airfields located in the zone to a depth of 150-160 km. Strengths: 16 dbp, 3d sbp, 10 iap. 2nd day - the blow is repeated. 3rd and 4th days - raids on airfields are repeated. Long-range bomber regiments endure attacks on airfields located at a depth of up to 400 km. ...6 task. On the 5th, 6th, 7th days of action, a blow is

struck on bridges across the river. Vistula and railway junctions determined by the task. Forces: 13 dbp, 24 sbp and 10 IAP ... "We immediately

note the extraordinary circumstance that on the first day of the war (i.e., at the moment when the enemy aircraft still exists in its maximum strength) 46 bomber regiments (moreover, during a raid to enemy airfields, i.e., in an operation during which a meeting with enemy fighters is very likely) only 10 regiments of fighters cover. Long-range bombers even bomb airfields in operational depth without any fighter cover (the actual range of the main types of fighters did not exceed 200–250 km, so that even when based at border posts, fighters could not penetrate 400 km deep into enemy territory).

Unfortunately, the document under consideration does not contain one extremely important section - the planned quantity sorties. We will take advantage have information from the much later (May 1941) Directive of the People's Commissar of Defense of the USSR No. 505862, in which the commander of the Kiev OVO was tasked with developing a plan to cover the mobilization, concentration and deployment of district troops.[128] And although, strictly speaking, the cover plan is only a part of the overall operational plan, in relation to the Air Force this difference is not so significant. It was at the stage of cover that two most important tasks were solved: "To gain air supremacy by active aviation operations and to disrupt and delay the concentration and deployment of enemy troops with powerful strikes against the main railway junctions, bridges and groupings of troops." Thus, for aviation, active operations at the stage of covering mobilization and the first operations of the w

So, in accordance with the above Directive, the Kyiv district (as well as all other districts) was allowed “before the 15th day of mobilization to spend: fighters - 15 sorties; short-range bombers - 10 sorties; long-range bombers - 7 sorties; scouts - 10 sorties. The word "use up" did not appear here by chance - each sortie of a combat aircraft is associated with the expenditure of a large amount of scarce aviation gasoline and precious engine hours of engine life. So, only the fighters were scheduled to stress (this is the standard term in the military language) one sortie per day; bombers were to fly even less often. Only on the first day of the operation was it supposed to carry out "two successive raids on airfields." Thus, the words “raid” (“two consecutive raids on airfields”) and “strike” (“2nd day - the blow is repeated ... the blow is struck on the bridges across the Vistula River”) used in the “Note” of the headquarters of the Kiev OVO are in fact synonyms for the word "departure". Five sorties on enemy airfields, three sorties - on bridges and railway junctions. With such efforts it was planned to "conquer, destroy and detain."

After that, “the 2nd stage of the operation began - the offensive. Depth - 120/130 km. The average pace of progress is 12–13 km. On

In this, the 2nd, stage of the operation, the Front Air Force was tasked with the following tasks:

"1. In close cooperation with the ground forces, destroy enemy manpower and fortifications, inflicting massive strikes in the main directions.

2. Prevent enemy reserves from approaching the battlefield, especially its mobile formations. Attention to the area of Lodz and Katowice. 3. Ensure the landing

of troops to capture crossings across the river. Vistula on the Demblin site, the mouth of the river. San. 4. Prevent

the enemy from occupying a defensive line on the river. Wisla. 5. Continue the fight for

air supremacy in the depth zone
150–200 km.

6. Cover the actions of their troops. As

you can see, the tasks of the first stage (the destruction of enemy aircraft at airfields and the destruction of railway junctions, bridges and crossings on the Vistula) by the time the 2nd stage began, were supposed to have already been completed (or at least completed in the main). We repeat once again that such a success, and even in the shortest possible time, was supposed to be achieved in the conditions of a 1.5-2-fold numerical superiority of enemy aircraft!

A little more realistically, the balance of forces of the parties was reflected in the task of the January (1941) operational-strategic game conducted by the General Staff of the spacecraft. More precisely, two "games" were held, during one of which (January 8-11) a plan was worked out for the Red Army's offensive in the South-Western theater of operations. According to the terms of this game, the "Eastern", after reaching the line of the Vistula River, the main forces struck from Krakow to the south, through the territory of modern Slovakia to Budapest. Having launched the offensive on August 12 (it is noteworthy that all the events of the "game" were tied not to the "first, second, third day of the operation", but to specific dates in August, moreover, on August 41!), the "eastern" by September 16 should have reach the line Budapest, Timisoara, Craiova (offensive depth 300–350 km).[129] At the same time, the air forces of the "eastern" numbered 5790 combat aircraft, while the aviation of the "western", "southwestern" and "southern" (i.e., Germany, Hungary and Romania) totaled 4456 aircraft - two times less than expected

in the “Note on the decision of the Military Council of the Southwestern Front”

dated December 1940. This time, as we see, the numerical superiority of the “eastern” aviation was planned, but very modest (1.3 times).

On May 31, 1941, the commander of the Kyiv OVO, Colonel-General Kirponos, approved the “Plan for the use of the Air Force of the Southwestern Front.”[130] The tasks assigned to the aviation of the front coincided almost verbatim with all previous versions of the operational plan:

1) By successive strikes of military aviation on established bases and airfields, as well as actions in the air, destroy enemy aircraft and from the very first days of the war gain AIR DOMINATION (thus, in capital letters, in the original document. - M.S.). 2) Fighter aviation, in close cooperation

with the entire air defense system of the district, firmly cover the mobilization and concentration of troops, the normal operation of railways and prevent enemy aircraft from flying through the territory of the district, into the interior of the country. 3) In cooperation with the ground

forces, destroy the advancing enemy and prevent the breakthrough of his large mechanized forces. 4) By destroying railway bridges and junctions in

Czestochowa, Katowice, Krakow, Kielce, as well as by actions against enemy groupings, disrupt and delay the concentration and deployment of his troops.

5) By all types of aerial reconnaissance, timely determine the nature of the concentration and grouping of

enemy troops. 6) Prevent dropping and landing on the territory of the district airborne assault and sabotage groups of the enemy.

In assessing the estimated number of enemy aircraft, the compilers of the document returned to the previous, large figures: “In total, up to 8000–8500 aircraft can be concentrated against the SWF on the territory of GERMANY, HUNGARY and ROMANIA, taken together. The total number of airfields and sites is up to 250 "(here it is only necessary to clarify that the "territory of Germany" also meant the part of southern Poland occupied by the Germans). In the operational subordination of the command of the South-Western Front it was supposed

to have 27 air divisions (107 air regiments), which will be armed with 6820 combat aircraft - less than the enemy, over which it was supposed to win dominance "from the very first days of the war."

Chronologically, the last of the currently known pre-war plans can be considered the “Action Plan of the Air Force of the Odessa Military District to cover the state border, troops and territory of the district”, signed by the commander of the Air Force of the district, Major General 1941 Michugin on June 18 [131] The composition of the enemy aviation group was determined as follows: “On the territory Romania on 1.5.41 has Romanian aircraft up to 1000-1200 ... In addition, the 6th Air Fleet of the German Air Force is stationed on the territory of Romania, consisting of 2 divisions, 5 squadrons each. According to the calculated data, we can assume the presence of up to 960 combat aircraft. It is worth noting that this seemed not enough, and in the General Plan for covering the district, approved on June 20 by the commander of the Odessa Military District, Colonel General Cherevichenko, the phrase appeared: "The possibility of a slight increase in the enemy's air force is not ruled out."

Own forces were estimated at 774 serviceable aircraft of the Air Force of the district, as well as about 400 aircraft of various types of the Air Force of the Black Sea Fleet. Even taking into account the 300 bombers of the 4th air corps of the DVA (based in the Zaporozhye region and theoretically could be involved in combat operations in the Romanian theater of operations), it turned out that the enemy had a noticeable numerical superiority. Nevertheless, the authors of the document do not consider the situation critical at all and are planning active actions:

“It is extremely necessary to inflict significant damage to enemy aircraft by active actions. This could be achieved best of all by a powerful surprise strike against enemy aircraft at airfields. However, the enemy can preempt us (it is worth noting that such a phrase, such an assumption appears for the first time. - M.S.). Then our first task will be to cover, withdraw aviation from under attack, inflict maximum losses in air battles and deliver a powerful retaliatory strike against enemy aircraft at airfields.

In the general plan for covering the Odessa District, the tasks of the Air Force are formulated even more decisively: “By a surprise attack on enemy aircraft at its airfields and by

the maximum losses in air battles from the very first days to gain air supremacy ... "[132] What

conclusions can be drawn on the basis of the considered documents?

The first thing that immediately catches the eye is the colossal overestimation of the estimated number of enemy aircraft. The word "mistake" can hardly be considered adequate for a situation where the operational documents of the highest headquarters overestimate the number of the enemy by 5-10 times. Recall textbook known figures and facts. ([133], [134], [135], [136]) It was not the mythical “6th Air Force of the German Air Force, consisting of 2 divisions, 5 squadrons each”, but the 4th Air Corps of the 4th Air Fleet, consisting of four air groups (regiments) of bombers, that was based on the territory of Romania (I, II, III/KG-27 and II/KG-4) and three fighter air groups (II, III/JG-77, I (J)/LG-2)[137] . In addition, the III / JG-52 fighter group and the headquarters of the 52nd fighter squadron as part of the “Luftwaffe mission in Romania” covered the capital Bucharest and the Ploiesti oil fields. In total (including defective aircraft) this grouping included 274 combat aircraft (163 fighters and 111 bombers). All bomber groups

were armed with aircraft, undoubtedly of the "old type" (first flight on February 24, 1935) - veterans of the Spanish war "Heinkel" He-111; there was not a single Junkers (neither Ju-87 dive bombers nor twin-engine Ju-88s) in the 4th Air Corps, which significantly reduced its combat capabilities in striking ground targets (in particular, on aircraft at airfields) . The technical condition of the Heinkels after many months of fighting in the sky over the English Channel and Crete was depressing. So, in the II / KG-4 air group, out of 24 cash bombers (with a staffing strength of 40), only 8 were in combat readiness, in three air groups of the 27th bomber squadron, as of June 21, there were only 68 serviceable aircraft (slightly more than half of the staff strength).

Hungarian and Italian aviation did not participate at all in the combat operations of the first weeks of the Soviet-German war. Romanian aviation was able to deploy to the front as part of the Gruparea Aeriana de Lupta (“Combat Air Force”, a kind of analogue of the Soviet

air divisions) 8 squadrons (not regiments, but squadrons!) of fighters (76 aircraft of three different types, including the very advanced, not inferior in terms of performance characteristics to the "donkeys" of the latest modifications, the Romanian-made IAR-80) and 11 bomber squadrons (80 aircraft of six (! !!) of different types). In addition, the reconnaissance units included 28 British "high-speed" Blenheim bombers, and the area of the port of Constanta was covered by a separate fighter squadron equipped with English Hurricanes. In total, about 200 relatively modern combat aircraft.[138] The tortuous path of the foreign policy of

the Romanian kingdom led to the fact that its aviation was equipped with combat aircraft from five countries: German Bf-109E, He-111, He-112 (the unsuccessful competitor of the Messerschmitt in the 1936 fighter competition), Italian three-engine bombers " Savoia Marchetti" SM-79, French Potez-63 light bombers, Polish PZL-37 bombers and PZL-24 fighters, the British Blenheims and Hurricanes mentioned above. In addition, about 450 more hopelessly outdated, mostly used aircraft were bought for next to nothing from wealthy neighbors and transferred to the local air defense system, military schools, and given to the ground forces. The unique "diversity" of the Romanian aviation created understandable (in terms of British and Polish technology - almost insurmountable) problems with maintenance and the supply of spare parts. The opponent of the Air Force of the Kiev OVO (South-Western Front) was to become the 5th Air Corps of the 4th Air Force of the Luftwaffe, consisting of

eight air groups of bombers (I, II, III / KG-51.1, II / KG-54.1, II, III/ KG-55) and three fighter air groups (I, II, III/JG-3). In total (including faulty) 356 combat aircraft: 109 fighters and 247 bombers (163 Ju-88 and 84 He-111). A total of 109 fighters over the vast expanses of Ukraine - how, for reasons of common sense, could such an adventure end? Some consolation for the command of the Luftwaffe could only be the fact that all three air groups of the 3rd fighter squadron received the latest Messerschmitts of the F ...

The second feature of the operational plans of the Soviet Air Force was an amazing "hatted" optimism. Having overestimated the number of enemy aircraft by an order of magnitude, the commanders of future fronts nevertheless expressed their readiness “from the very first days to gain air supremacy”, destroy dozens of bridges and railway stations within one week, and also “destroy oil and gasoline reserves, destroy oil refineries” , and at the same time “subject to systematic attacks the enemy’s river fleet on the river. Danube". And all these successes were planned under the pressure of two sorties in three days (for bombers) and with a meager supply of aviation gasoline. All this is very strange,

especially considering the considerable combat experience accumulated by Soviet aviation during the local conflicts of 1936-1939. (Spain, China, Khalkhin Gol). The lesson of the war with Finland (winter 1939/40) should have been the most disturbing. The huge grouping of the Soviet Air Force (from 1800 aircraft at the front at the beginning of the "winter war" to 3350 aircraft by March 1940), having in front of it an extremely weak aviation and air defense of impoverished Finland, could not properly solve any of the tasks assigned to it. According to Marshal Mannerheim, who is quite competent in this matter, “the strikes inflicted on the troops from the air, especially at the beginning of the war, were timid, and the bombardments could not break the will of the nation to defend ... The strategic task is to break our external communications and achieve the collapse of traffic - The Russians failed at all. Our shipping, concentrated in Turku, was not paralyzed, although the city was bombed more than 60 times ... The only way connecting Finland with foreign countries was the Kemi-Tornio railway. It was the largest part of the export and import of military equipment. This path remained safe and sound until the very end of the war ... The production of military equipment also went without major disruptions.

[139]

If this was the result of the confrontation with Finnish aviation, which numbered no more than one and a half hundred obsolete fighters, then what reason were there to hope for the best in the event of a collision with 6-8 thousand Luftwaffe aircraft? This question is, of course, rhetorical. Much more interesting is the other - did the authors of the plans themselves believe in what they write?

Ask no one. Time (and people) is irretrievably gone. As a working hypothesis, I can only suggest that all these "plans", "considerations" and "directives", adorned with sacred stamps ("special importance", "top secret", "one copy"), were nothing more than ordinary bureaucratic "replies". The top political leadership of the country (in other words, Comrade Stalin) demanded the development of a Grand Plan for the Conquest of Europe, the General Staff obediently drew arrows on the maps, the commanders of the districts "took a salute" and wrote multi-page reports on future brilliant victories. At the same time, everyone (except one, at the very top) was waiting with growing horror for the moment when the hurricane of war would blow the “cardboard house” of surrealistic plans. And they also hoped (a person cannot live without hope) that in the roar of the battles of a real war, these “Napoleonic plans” and their unlucky authors would soon be forgotten.

That's how it really happened. Those who were not shot in the first weeks and months, Stalin forgave. And the pre-war plans disappeared, dissolved in the impenetrable darkness of the secret archival vaults.

2.2. First day

A characteristic feature of the process of transforming the Odessa Military District into the Southern Front was a unique organizational leapfrog. Before the war, the 9th Army was deployed on the territory of the district, to which all three air divisions of the district (20th, 21st, 45th SAD) were operationally subordinated. According to the initial versions of the strategic deployment plan, the 9th Army was included in the Southwestern Front. However, on June 21, a decision was made to form the Southern Front, and the command and headquarters of the front were formed on the basis of the command of the Moscow (and not the Odessa, which, it would seem, was more logical) military district. The location of the headquarters of the new front was determined by the city of Vinnitsa, located outside the territory of the Odessa district! Along with the 9th Army, the newly created 18th Army was included in the Southern Front, formed by the “Trishkin caftan” method due to the formations of the left (southern) flank of the Southwestern Front (17th and 55th Rifle Corps, 16th mechanized corps, 4th anti-tank artillery brigade); the headquarters of the 18th army was formed on the basis of the headquarters of the Kharkov military d

With regard to the Air Force, this had the consequence that in the first days of the war, operational reports of air divisions were addressed to the commander of the Air Force of the 9th Army, and the commander of the Air Force of the Odessa District, and the headquarters of the emerging Southern Front. The 45th SAD was promptly reassigned to the 18th Army, but it still continued to receive orders from the 9th Army; The 131st and 146th IAP appear in documents either as part of the 21st or 45th air divisions, or as separate ones, subordinate directly to the front headquarters.

The second - and incomparably more significant - feature of the development of the situation on the southern flank of the Soviet-German front was that the general offensive of the German and Romanian troops in Bessarabia began only on July 2, that is, ten days after the start of the war (the Wehrmacht command did not immediately decide using the German 11th Army deployed in Romania, and only after a clear success was indicated in the main strike zone of Army Group South, it was decided to launch an offensive

from the Prut to the Dniester). In the very first days of the war, everything came down to not too persistent attempts by the Romanian troops to force the border river Prut in a number of places and create bridgeheads on its eastern bank. Thus, the combat operations of the aviation of the Odessa District began and continued until the end of June in a situation of a stable position of the front of the ground forces, which allowed the air units to operate from their permanent, well-equipped airfields, without hastily relocating anywhere.

On the eve of the war, three air divisions of the Odessa Military District were deployed as follows: - in

the center of Moldova, in the region of Balti, Chisinau, Grigoriopol, Tiraspol, Kotovsk, the 20th SAD was based, consisting of two fighter (55th, 4th IAP) and two bomber (45th, 211th BAP) regiments; - to the south, closer

to the Danube Delta and the Black Sea, in the area of Odessa, Akkerman (now Belgorod-Dnestrovsky), Tarutino, Bolgrad, Kolosovka, the 21st SAD was based as part of four fighter (69, 146, 67, 168th IAP), one bomber (5th BAP) and one assault (299th ShAP) regiments; - in the depths of the district, at a considerable

distance from the future theater of operations, in the region of Kirovograd, Pervomaisk, Krivoy Rog, the 45th SAD was based as part of three bomber (132, 232, 210th BAP) and one fighter (131st IAP) regiments (however, the 232nd and 210th regiments were in the process of formation and existed rather on paper). In terms of numbers

(six air regiments, more than 370 pilots), the 21st SAD was the most powerful air division not only in the Odessa District, but in all the Red Army Air Forces. However, it must be taken into account that the 299th ShAP was in the process of formation, had not yet received a single Il-2 attack aircraft and was armed with four dozen I-153 biplane fighters; only the 146th IAP received the latest MiGs in significant numbers (57 MiG-3s), the rest of the fighter regiments were armed with I-16s. The 5th BAP was an "old" personnel aviation regiment; before the start of the war, it managed to receive 25 new Pe-2 dive bombers.

The fighter regiments of the 20th SAD were completely re-equipped with the MiG-3, and at the same time, 20 I-16s and 73 I-153s remained in combat readiness in the units. Bomber regiment of the division (45th

BAP) was armed with "veterans" of the SB, new Pe-2s were received in scanty quantities (5 units). The 211th BAP was in the process of formation; having a full set of flight personnel (64 crew), by the time the war began, the regiment received only 16 (according to other documents of the same division - 13) "newest" Su-2, i.e., single-engine light "under-bombers".[140] The 20th SAD became very famous due to two

circumstances: the division commander was a Hero of the Soviet Union, a participant in the war in Spain, as well as the husband of the famous pilot Polina Osipenko, Major General A.S. Osipenko, the future commander of the air defense aviation of the country, and the deputy squadron commander in the 55th IAP was Senior Lieutenant A.I. Pokryshkin is the future three times Hero of the Soviet Union, the most productive ace of the anti-Hitler coalition aviation[141] . Those who read Pokryshkin's memoirs remember that he speaks of the division commander, to put it mildly, critically.[142] It is not for us to judge such extraordinary people. In any case, signed by A. Osipenko, very detailed, multi-page reports on hostilities, on tactics - one's own and the enemy, and features of the combat use of various types

aircraft, etc.

In one of the reports, compiled in September 1941 with a clear emphasis on stating "objective difficulties", the commander of the 20th SAD (unwittingly, it seemed to me) gives a very harsh assessment of the state of combat training in the division entrusted to him:

“The 4th IAP and the 55th IAP were in the process of retraining on the MiG-3 aircraft, which began to enter the division in the first half of April of the 41st city. The MiG-3 aircraft did not master the flight crew and only underwent piloting techniques, not having not a single flight for firing ... By 22.6.41, the 55th IAP had 41 pilots flying independently on the MiG-3, from the very first days of the war he entered into battle with the enemy, despite the fact that some of the pilots had only a few flights in a circle , and the rest of the pilots went through a retraining program without having flights for shooting and training air combat ... The flight crew of the 45th BAP performed the first

task of KBP-41 and did not fly for practical bombing and shooting ... The 211th BAP began flying work from 15.3.41 , the flight crew of the regiment is young, just

arrived ... By the beginning of the war, the flight crew in the amount of 64 people. (so in the text, it should be “64 crews.” - M.S.) was independently released on the Su-2 aircraft, but had only 3-5 training flights. He did not fly at all to perform exercises in KBP-41 and had no practice in bombing, aerial shooting and piloting. Despite this, the flight crew of the regiment boldly, resolutely and selflessly went into battle ... "[143] There is no arguing with this - if people who have never fired or bombed," after 3-5 training flights did not have practice in piloting, although would have flown towards the enemy, then this is already a feat. Another thing is strange: why, having received new MiG-3s in the first half of April 1941, the flight crew did not master the aircraft - if, in accordance with the Order of the People's Commissar of Defense No. 0020 of March 11, 1941, 8-10 flight hours?[144] Why did the pilots of the 211th BAP from 15.3 to 22.6 did not manage to shoot or bomb even once? Why do they have “only 3-5 training flights” in 97 days? Another thing is even stranger - another report gives specific figures for flight training in the 211th BAP: 2940 sorties in April and 1930 sorties in May. On average, it turns out not 3-5, but 76 (!!!) training sorties for each of the 64 crews (and this is not counting June 41st). And the total duration of these sorties turns out to be surprising: 341 hours in April and 237 hours in May, that is, an average of 7 minutes? There are significantly fewer sorties in the 45th BAP (2409 in two months), but their average duration is 31 minutes. (126) Also not too much, given that we are talking about training crews for a bomber with a maximum flight range of 1.5 thousand km. What is the truth in the leapfrog of these clearly incor

I would like to hope that at least the numbers reflecting the number of aircraft in the regiments roughly correspond to reality:[145]

55-й ИАП	Бельцы	57 МиГ-3, 12 И-16,40 И-153
4-й ИАП	Григориополь	58 МиГ-3, 8 И-16, 33 И-153
45-й БАП	Гросуловог	49 СБ, 5 Пе-2
211-й БАП	Котовск	13 Су-2
всего в 20-й САД		275 самолетов (208 и. + 67 б.)
69-й ИАП	Одесса	70 И-16, 5 МиГ-3
146-й ИАП	Тарутино	57 МиГ-3,20 И-16
67-й ИАП	Болград	64 И-16
168-й ИАП	Колосовка	61 И-16
299-й ШАП	Одесса	43 И-15бис/И-153
5-й БАП	Аккерман	35 СБ, 25 Пе-2
всего в 21-й САД		380 самолетов (277 и. + 60 б. + 43 ш.)
132-й БАП	Кировоград	55 СБ, 5 Пе-2
232-й БАП	Кировоград	20 СБ
210-й БАП	Первомайск	3 Су-2
131-й ИАП	Кривой Рог	67 И-16, 5 МиГ-3
всего в 45-й САД		155 самолетов (83 б. + 72 и.)
317-й РАП	Одесса	40 СБ
всего в ВВС **Ю.ф.**		850 самолетов (557 и. + 250 б. + 43 ш.)

Note: - the

total number of aircraft is indicated, including temporarily faulty;

- only the main, base airfields of the regiments are indicated, in total, by June 22, 1941, there were 107 (one hundred and seven) airfields on the territory of the district;

- in addition, the 160th reserve was part of the district air force air regiment, which included 73 aircraft of various types.

Thus, in terms of the number of aircraft of the Air Force of the Odessa Military District (not counting the other two components - the Air Force of the Black Sea Fleet and the 4th Corps of the DVA in Zaporizhzhia), they almost doubled the opposing grouping of the German-Romanian

aviation. Especially noticeable was the superiority in the number of fighter aircraft (557 versus 239). Soviet fighters of the "old types" were at least as good as the aircraft of the Romanian Air Force in terms of performance characteristics, and 182 new "Migas" could become a worthy competitor to 163 shabby "Messerschmitts" of the E series from the 4th Air Corps of the Luftwaffe. Of course, all this arithmetic does not take into account the main thing - the depressingly low level of flight, rifle and tactical training of the crews of the Soviet Air Force.

In his memoirs, Pokryshkin cites an interesting episode that brightly complements the already well-known picture of a “sudden attack”. On June 17, the owner of an apartment rented by young pilots in the city of Balti tells them: “Listen to me. This week

Germany will attack the Soviet Union. Hitler's armies are at the border. What will happen to us? Where should we old people go? All hope is in you. If the Red Army does not defeat Hitler, then he will destroy all of us Jews. "Don't believe me," I tried to reassure the old man. -

Gossip? Trust me, it's all true. My sons live in

Bucharest. They told me that the war would start on Sunday.

... Having overtaken the last three aircraft to Mayaki, I reported regiment commander about a conversation with the owner of the house.

“Anything is possible,” Ivanov said thoughtfully. - So or otherwise, but we will have to fight, and we will have to soon ... "

Looking ahead somewhat, we note right away that on June 22, 1941, nothing catastrophic happened to the aviation of the Odessa District. There were battles, there were losses, there were successes, there were numerous downed enemy planes. Of course, domestic historians could not endure such a violation of the myth of the "first annihilating strike on airfields". In hindsight, many years after the war, a saving legend was invented: the command of the Odessa Military District allegedly was not afraid to violate the notorious "Stalin's ban" and, on its own initiative, put the district aviation on alert, dispersed and disguised itself. That is why the losses from the first strike on airfields turned out to be minimal.

Alas, this version is deeply erroneous. "Collective Stalin" (i.e., the top military-political leadership of the USSR) never forbade aviation commanders to mask airfields and disperse aircraft. Rather the opposite. Back in September 1939, by

order of People's Commissar Voroshilov, temporary tactical and technical requirements for airfield hubs and operational airfields were put into effect, in which the experience of local wars of 1936–1939 was duly taken into account. in terms of camouflage materiel. Alas, in December 1940, the new People's Commissar of Defense Tymoshenko was forced to state (order No. 0367) that "none of the districts paid due attention to this order

and did not fulfill it. The People's Commissar demanded from his subordinates "to realize that without careful camouflage of all airfields, the creation of false airfields and the camouflage of all materiel in modern warfare, the combat work of aviation is unthinkable." The directive part of the order contained the following instructions:

“All airfields scheduled for sowing in 1941 must be sowed taking into account camouflage and in relation to the surrounding area by selecting appropriate herbs. At airfields, simulate: fields, meadows, gardens, pits, ditches, ditches, roads, in order to completely merge the background of the airfield with the background of the surrounding area ... By July 1, 1941, complete the masking of all airfields located in a 500-km strip from the border ... By the forces of the units, before April 1, 1941, prepare the necessary light portable camouflage material for each airfield ... "

June 19, 1941 (i.e., 11 days before the deadline set by the pre-expiration order for the completion of the masking of airfields in the border districts and, by the way, one day after the commander of the Air Force of the Odessa District wrote: “The enemy can get ahead of us”) In order No. 0042, Timoshenko states the following: “Nothing significant has been done so far to mask airfields and the most important military facilities. The airfield fields are not all sown, the take-off strips are not painted to match the color of the terrain, and the airfield buildings, standing out sharply with bright colors, attract the attention of the observer for tens of kilometers (for sure, Pokryshkin writes in his memoirs that at the large base airfield of Balti, the fuel storage tanks shone dazzlingly white paint under the hot southern sun. - M.S.). The crowded and linear arrangement of aircraft at airfields with the complete absence of their camouflage and the poor organization of airfield services with the use of unmasking signs and signals completely unmask the airfield ... "

Next came new old instructions: “By 1.7.41, sow all airfields with grasses to match the color of the surrounding area, paint the runways and imitate the entire airfield situation in accordance with the surrounding background ... Bury the gas storages in the ground and carefully disguise them. Categorically prohibit the linear and crowded arrangement of aircraft; dispersed and

camouflaged disposition of aircraft to ensure their complete non-observability from the air ... Check the camouflage of airfields, warehouses, combat and transport vehicles from the air by observation of the responsible commanders of the headquarters of the districts and photography. Any shortcomings discovered by them should be eliminated immediately."

The next day, June 20, 1941 (this time with three signatures: People's Commissar Timoshenko, Chief of the General Staff Zhukov and Secretary of the Central Committee Malenkov), order No. the main types of combat readiness of the Air Force, it can no longer be tolerated ... by July 1, 1941, mask all airfield facilities in relation to the background of the terrain ... aircraft should be dispersed under natural and artificial shelters, along the outskirts of the airfield, not allowing them to be placed in straight lines

lines…"

These orders were equally addressed to the commanders of all frontier districts. The Odessa district, if anything, differed from the others, only in that it is much more difficult to disguise an airfield in the flat, like a table, Black Sea steppe than in the forests of Western Belarus. The orders were executed differently everywhere - the amazing heterogeneity and unpredictability in the execution of managerial decisions was a typical feature of the legendary "Stalinist order". Be that as it may, but on July 9, after the start (and what a start!) of the war, the commander of the Air Force of the spacecraft, Lieutenant General Zhigarev, issues another order (Directive No. and pilots, we are losing unacceptably many aircraft on the ground. Small groups and even single enemy planes, with

complete impunity, shoot and burn planes parked openly on airfields. Crowded disposition, lack of a warning system, disorganization for an alert sortie, poor enemy reconnaissance, slowness in practical conclusions from enemy tactics, and a lack of firm discipline and order lead to unnecessary losses. I ORDER… (followed by 12 points of instructions on camouflaging airfields and dispersing aircraft. - M.S.)… Non-acceptance of these elementary measures will be

regarded as criminal negligence and refusal to perform sacred duty to defend the Motherland."[146] —

Let us return, however, to the events of the first day of the war. In the early morning of June 22, 1941, an armada of various aircraft of the Romanian Air Force appeared in the sky of Bessarabia. The deployment of enemy aviation was such that Romanian units were operating in the southern sector, and German and Romanian air units were operating over the central and northern regions of Moldova. In a certain sense, this turned out to be a good combination of circumstances for the Soviet Air Force - the Germans were opposed by the —

20th SAD, re-equipped with new MiGs[147] . "Combat order

No. 01, headquarters of the 21st SAD, Odessa, 6.00 22.6.41 1. German-Romanian troops at 4.30, having violated the USSR border in the Cahul region, are fighting with border units. His Air Force in the period from 4.50 to 6.00 bombarded the airfields of Balti, Grosulovo, Chisinau,

Bolgariyka (now - Zaliznichnoe, 8 km north of Bolgrad. - M.S.). The weather in the region of Bessarabia and further to the west is cloudy 6–8 points, H-1500/2000

m, without rain. Visibility 10–15 km. Northeast wind 5–8 m/s. 2. At 3.00 06.41, units of the 21st SAD were alerted (emphasized by me. - M.S.) with the task of covering the group of troops in the area of Leinzig, Berezino, Sarata, st. Artsyz, Odessa and be ready for combat operations on enemy airfields and railway stations.

3. 5 SBI Preparedness No. 3, hang live bombs and be ready to destroy the ports on the river. Danube, to the destruction of bridges at Galati, Briela, railway station Faurey, railway bridge over the river. Danube near Chernovody - by Pe-2 aircraft.

Departure by my order ...

Commander of the 21st SAD Colonel Galunov Nach. headquarters Lieutenant —

Colonel Kirillov.[148] Both in form and in content, the first order of war is devoid of the slightest trace of confusion, let alone panic. Everything is "as expected" - an assessment of the location and actions of the enemy, the position of their troops, weather conditions, a combat mission ... The task assigned to the bomber regiment of the division (attacks on objects of the transport system in the operational rear of the enemy),

testifies to the intention to act on decisive pre-war plans.

At 10 o'clock in the morning in Tiraspol, at the headquarters of the Air Force of the Odessa Military District, the first combat report went:

"1. At 5.1022.6.41 enemy bombers bombarded the BULGARIYKA airfield - to no avail.

2. As a result of air combat, the 67th IAP shot down 7 enemy bombers, four of which fell in the Bolgariyka-Bolgrad area. Three planes - the crash site is being established. 3. Losses: the pilot of the 67th IAP, Senior Lieutenant

Moklyak, died. There are no casualties from the bombing. 4. The rest of the units are in readiness No.

2 to carry out a combat mission in the areas of the old deployment. Chief of Staff of the 21st SAD Lieutenant

Colonel Kirillov."[149] Here I want to allow myself one (the —

first and last in this chapter) lyrical digression. In 2009, on the occasion of the 70th anniversary of the start of the World War, French filmmakers made a monumental 6-episode documentary film ("Apocalypse. removed World War II"), shown by TV channels in many EU countries. So I think: if, in a moment of calm, a DVD player, an LCD monitor were placed in front of Lieutenant Colonel Kirillov, a disc with a film was inserted, then what would he be more surprised at: the miracles of technology of the 21st century or the voice-over text of the announcer who said that "Soviet aviation, concentrated at border airfields, was destroyed in the first few minutes (that's right - not hours, but minutes!) of the invasion ... "During the day of June 22, fighter pilots of the 67th IAP got the opportunity to get acquainted with the whole variety of enemy combat aircraft. At dawn,

around 4 am, a lone Romanian scout (Blenheim) appeared in the air. He was to become the first aircraft of the Romanian Air Force shot down in the war against the USSR. A few minutes later, 9 Italian 3-engine Savoia Marchetti SM-79 bombers appeared over the airfields of Bolgrad and Bolgariyka under the cover of 18 Romanian-made IAR-80 fighters. In the ensuing air battle, fighters of the 67th IAP shot down 2 Savoys and seriously damaged one Romanian

a fighter that was able to pull over the border and make an emergency landing in the Briela area. After that, a

group of 13 French Potez-63s, accompanied by 12 German Heinkel He-112 fighters, appeared over the airfield and railway station Bolgrad. Three "potes" were shot down, the fourth was able to make an emergency landing on Romanian territory. The sortie ended with an emergency landing for one of the Heinkel escorts.

Towards noon, 9 Polish PZL-37 Los bombers appeared over the Bolgariyka airfield, accompanied by 6 Hurricane fighters. Two bombers were shot down (one - in air combat, the second - anti-aircraft fire). The last victory of the fighters of the 67th IAP was another reconnaissance Blenheim, shot down in the Bolgrad region.[150] At nine o'clock in the evening, the headquarters of the 21st SAD

prepared a detailed Operational Report No. 01, in which the results of the first day of the war were summed up: “1. Parts of the 21st SAD during the

day 22.6.41 carried out combat missions to repel an air enemy in the BOLGRAD area; carried out a bombing raid to destroy enemy personnel in the KARTAL area and destroy the railway bridge on the river. PRUTH near GALATSI. Conducted reconnaissance in the areas of BRIELA, BUZEU,

Art. FAIREY. 2. The 67th IAP from 4.00 to 20.00 on 22.6.41

repulsed three enemy bombing raids in the BOLGARIYKA, BOL GRAD area. As a result of air combat, 13-15 bombers and fighters of the ME-109, ME-110, POTEZ, Yu-88 types were shot down. 6 Romanian pilots were taken prisoner, the rest burned down and crashed. Losses: one I-16 plane burned down; one I-16 aircraft was shot down on

the ground, the pilot senior lieutenant Moklyak was killed, one pilot was seriously injured. Regiment in the composition

_ crews (as in the text, the gap is not filled. - MS) by 21.00 dispersed at operational airfields in readiness No. 2. 3. The 5th SBP in

the period 14.40–16.5022. reconnaissance in the area: BRIELA, BUZEU, st. FAIREY. At 19.40 he carried out a bombing raid on manpower consisting of 8

SB and 9 PE-2 in the KARTAL area and on the destruction of the bridge of the river. PRUTH near GALATSI. According to the observations of the crews, the bridge was not destroyed, there were hits on manpower. By 20.50 landed safely.

There are no losses. Regiment consisting of aircraft 12 PE-2 and 15 SB crews dispersed in readiness for combat missions.

4. The 146th IAP from 14.30 to 20.50 on 22.6.41 covered the combat operations of the 5th SBP and ground units in the SARAT, LEINZIG area. There are no losses

…"[151] The remaining three regiments of the division (69th IAP, 168th IAP and 299th ShAP) did not actually conduct combat operations. The 69th IAP (48 combat-ready I-16s) patrolled the airspace over Odessa and its own airfields, but "during patrols in the guarded zone, there were no encounters with the enemy." And this is not because the fighters of the 69th IAP could not detect the enemy - the Romanian dictator Antonescu, for political reasons, did not want to start a "crusade for the liberation of Bessarabia" by bombing residential areas of densely populated cities, so Odessa was not bombed in the first days of the war. The 168th IAP at 04.00 was "alert put on combat readiness No. 2 ... During the day, it made

6 flights to patrol the airfield area. There were no meetings with the enemy."[152] On the evening of June 22, the regiment, which at that time included 53 combat-ready I-16s, began to move closer to the front line, to the Akkerman (now Belgorod-Dnestrovsky) and Sarat airfields. The 299th ShAP "did not conduct combat operations during the period of 22.6.41."

In fact, the only place where fierce battles with an air enemy took place was the sky over the airfields of the 67th IAP (Bolgariyka and Bolgrad). The report of 13-15 downed bombers is not too exaggerated (although the types of some enemy aircraft are clearly erroneous; it is possible that the two-tailed Polish PZL-37 Los or the French Potez 63 were mistaken for the Me-110). In fact, the fighters of the 67th IAP shot down 9 bombers and seriously damaged (the flight ended in a forced landing) one bomber and two enemy fighters.

The pilots of the 67th IAP (regiment commander - Major Rudakov) completed 117 sorties during the day on June 22 (an average of 2.7

departures per pilot - for the Soviet Air Force, this can be considered a record figure). The regiment's casualty

report updated on June 23 confirmed the loss of two I-16s, the death of Senior Lieutenant Moklyak, and the wounding of two other pilots. (131) The number of losses of the regiment given in the book by D. Khazanov (6 aircraft, 1 of them on the ground) is not based on anything, but is similar to the real number of losses (5 in the air, 2 on the ground, 1 crashed in a crash) for 10 days, from June 22 to July 2.[153] —

The 67th IAP acted so actively that even the crews of the 5th BAP had to experience it. In the Opersvodka of the regiment headquarters (compiled at 22.00 on June 22) we

read: "... the 2nd air squadron, consisting of 9 Pe-2 at 19.59, bombed the Galati railway bridge from H-2100 m. According to the observations of the crews, the target was not destroyed, bombs fell to the right of the target along the railway track. At 19.55, in the Galati region, they were fired upon by their I-16 fighters in the amount of 7 pieces. A second attack was carried out by 6 I-16 aircraft in the Bolgariyka area. There are no losses... The regiment consisting of 16 Pe-2 crews, 16 SB crews and 2 crews in —

reserve for reconnaissance is ready for combat operations by 03.50 on 23.6.41.[154] Most likely, the mistake, which only by a lucky chance did not lead to a tragedy, was facilitated not only by the general confusion of the first day of the war, but also by the novelty of the Pe-2 aircraft, which was little known to Soviet pilots and according to some characteristic features of the silhouette (two-tail plumage, pointed nose of the fuselage) , very similar to the Potez-63. The inaction of the fighters of the 146th IAP is surprising, which - according to the operational report of the division headquarters - covered the first combat raid of the 5th BAP, but could not prevent the a

Much less successful was the first day of the war for the 20th SAD. As noted above, not only Romanian, but also German air units became her opponent. True, the Germans had to divide their frail forces (111 bombers, including faulty ones) in three directions: Chernivtsi, Bessarabia and Sevastopol. Bomber group II / KG-4 (the one in which there were only 8 serviceable Heinkels) at dawn on June 22 dropped 8 bottom magnetic mines by parachute over the Sevastopol Bay. These parachutes, appearing in the predawn haze, caused

additional panic at the headquarters of the Black Sea Fleet, where they decided that the enemy was dropping an airborne assault on the main base of the fleet ... All German bombers returned without loss to their airfield in Zilistea (80 km north of Buzÿu). It was these events that formed the basis of the heroic myth created later about "People's Commissar of the Navy Kuznetsov, who was not afraid to violate Stalin's ban and put the fleet on alert." The raid itself was described by one of our memoirists as follows:

“At a quarter past four, the powerful beams of searchlights cut through the cloudless starry sky and swayed like pendulums, feeling the sky, through which, growing with every second, a monotonous rumble spread. Finally, a fearsome armada of low-flying planes appeared from the sea. Their endless rows of crows (emphasized by me. - M.S.) alternately swept along the Northern Bay. Batteries of coastal anti-aircraft artillery and ships of the squadron opened hurricane fire on them and mixed up the battle formation ... The gloomy silhouettes of still unknown bombers either flashed in the beams of searchlights or disappeared in the void of

the sky ... "At a time when the" endless rows of crows "from 8" Heinkel " flew up to Sevastopol, two bomber groups of the KG-27 squadron, having risen before dawn from the Focsani airfield (70 km northwest of Galati), flew about 300 km over the territory of Romania, crossed the border and brought down a bomb load on the airfield based 149th IAP (64th IAD of the Air Force of the South-Western Front) near the city of Chernivtsi. This was probably one of the most massive Luftwaffe raids on Soviet airfields for the entire day of June 22 on the entire Soviet-German front (this episode of the war will be discussed in more detail in the next chapter).

To strike at the airfields of the Odessa District, the command of the 4th Luftwaffe Air Corps sent fighter groups (base airfields - Bacau and Roman) and the third bomber group of the KG-27 squadron. The first, most powerful blow was delivered early in the morning, at 4 o'clock. 20 minutes, the next followed at 13.50, 18.00 and 19.20 (Moscow time). The main "center for the application of efforts" for the Germans was the Balti airfield hub (the area where the 55th IAP was based). In total, for this day, German pilots announced 14 Soviet aircraft shot down in air battles.

(8 I-16, 1 I-153 and 5 bombers identified as DB-3; not to mention the fact that these losses are not confirmed by the documents of the headquarters of the 20th SAD, the indicated types of aircraft also cause great bewilderment). ([155], [156]) Documents from the headquarters of the Soviet Air Force also confirm the massive strike that the airfield of the 55th IAP in Balti

was subjected to: , dazzlingly sparkling with white paint. - M.S.). 2 killed, 1 wounded. At 13.30, the airfield was attacked again by 9 bombers under the cover of 7 Me-109. Shot down alone

Me-109u pilot was captured (the loss of one fighter from JG 77 is also confirmed by German documents. - M.S.). At 20.10 20 bombers bombed the Balti airfield. According to preliminary data, one enemy bomber was shot down (according to German data, not a single Heinkel from the KG-27 was irretrievably lost; only one Junker Ju-88 from the long-range reconnaissance detachment received serious damage in an air battle over Bessarabia. — M.S.). One of our fighters has been lost." According to the report of

the regiment headquarters, during the day of June 22, the pilots of the 55th IAP completed 151 sorties (this is a record figure - not only for the Air Force of the Odessa District, but for the entire group of Soviet aviation in the Western theater), which averaged 3 sorties per pilot,[157] however, this had little effect on the results of the day, and their own losses (3 on the ground, 1 in the air) turned out to be more than the losses of the enemy. For the fighter regiment, which on that day had 74 serviceable aircraft, including the latest MiGs, such an outbreak of hostilities can be assessed as a

defeat. During the day of June 22, the 4th IAP (airfield hub Chisinau - Grigoriopol) performed 96 sorties and used up 37,800 cartridges for airborne machine guns (which amounted to more than half of [158] the total consumption of cartridges for the first nine days of the war) . The results turned out

to be very modest: “During 22.6.41 he fought against enemy bombers, covered the cities of Chisinau and Tiraspol (which did not prevent the enemy from bombing with impunity at the Grosulovo airfield and the

Chisinau. - M.S.), conducted reconnaissance in the area of Botosani, Iasi, Pashkani, Bacau. At 7:15 a.m., during a bomber raid in an air battle on the N-2000 m near the Chisinau airfield, Major Orlov shot down one Blenheim-type enemy bomber (according to Romanian documents, one reconnaissance Blenheim was irretrievably lost in the Chisinau area. - M.S.). The plane and the crew burned down 6 km north of the airfield ... In an air battle, one MiG-3 was lost, one [159]

[160] broke the wing console during

landing. The airfield of the 211th BAP in Kotovsk was not attacked by the enemy. The emerging regiment, with its very modest forces, carried out 8 sorties. “At 18.10, as part of 8 Su-2 aircraft, they bombed crossings in the Dumen, Lipkany section. No results have been received from the regiment.”[161] During the raid, 32 FAB-50 [162] bombs were dropped. The already small bomb load of the Su-2 "under-bomber" was used only by half (in comparison with the maximum load of this aircraft - by one third). There were no losses; there were also no encounters with an air enemy (as far as one can judge from the zero consumption of cartridges). The 45th BAP suffered the heaviest

damage, and, as far as one can judge from the available sources, it was not the German, but the Romanian aviation that was responsible for it. At dawn on June 22, a large group of Romanian Air Force aircraft (17 He-111 bombers escorted by 27 fighters) crossed the border and headed for Chisinau and Tiraspol.[163] The blow was struck at the railway station and the Chisinau airfield, industrial facilities in Tiraspol and the airfield of the 45th BAP in Grosulovo. Judging by Operational Report No. 1 of the headquarters of the 20th BAD (signed at 19.30 on June 22), this had serious consequences: “At 5.15, a bombing attack was carried out on the Grosulovo airfield by 3 aircraft; 8 SBs and 2 Pe-2s were destroyed at the airfield, 9 people were wounded.”[164] Such heavy

irretrievable losses on the ground (the largest for the whole of June 1941 - not only in the 20th SAD, but in the entire aviation of the Odessa District) are also confirmed by the report on combat work ("form No. 100") of the headquarters of the 45th BAP , from which it follows that from 22 to 23 June the total number of aircraft (both serviceable and defective) in the

dropped from 45 to 35.[165] After this strike, on June 22, the regiment was capable of only one single sortie, during which “at 12.30 three Pe-2 planes reconnoitered the Skuleni, Ungheni area” (strange, but in the same Opersvodka No. 1 on the previous page this sortie is described like this: “At 12.10, as part of the Pe-2 link with H = 600 m, they bombed the railway bridge on the Prut River north of Yassy”). The division commander, Major General A. Osipenko, in his report dated

On June 28, he gave the following assessment of the actions of his subordinates:

"1. Despite a sufficient margin of time from the moment the alarm was announced to the enemy’s raid, the units still could not escape from the blow with the least losses (45 SBP, Balti) and inflict damage on the enemy, as a result of which the enemy left with impunity, and we suffered heavy losses on land due to criminal negligence and disorganization in the regiments. 2. The dispersal of the material part is unsatisfactory in all regiments, the

aircraft are crowded, together serviceable and defective are on the airfield.

3. Disguise, it can be considered that almost completely absent, and the possibilities that all parts have on

airfields, the situation is especially bad in the 55th IAP…”.[166]

The harshness of expressions is understandable - the commander of the 20th SAD compared the actions and achievements of his subordinates not with the legend about the "first destroying strike of the Luftwaffe" (on June 28 he did not know about it yet), but with the requirements of the Regulations and Instructions, the tasks and real capabilities of the division entrusted to him . Perhaps the ambitious (without this character trait it is difficult to become a general at the age of 31) division commander was depressingly affected by the comparison with the results of successful military operations of the “neighbor on the left” (21st

SAD). The third air division of the district (45th SAD) was inactive throughout the day on June 22. Enemy planes did not fly into such a deep rear of the Soviet troops (300–400 km from the border), and the command of the 45th SAD and the District Air Force did not set any active tasks for the units. As a result, two air regiments fully equipped with aircraft and pilots (the 132nd IAP and the 132nd BAP) did not take part in the hostilities.

In Operational Report No. 2 of the Air Force Headquarters of the 9th Army (Tiraspol, 22.00 22.6), the results of the first day of the war were summed up sufficiently

objectively and self-critically:

"1. During the day, the fighter units of the Army Air Force repelled enemy air attacks in the zones of extermination, covered airfields and army headquarters, and escorted bombers for reconnaissance and bombardment of crossings. Bombers attacked the enemy at crossings over the river. Prut in the areas of Dumen, Lipkany, Kartal ... 4. The 45th SAD did

not carry out military operations. 5. Total

losses of the Army Air Force: 7 MiG-3s (corrected with a pencil to 6 and added "one MiG-3 received a minor breakdown." - M.S.), ZSB (so in the text, but the documents of the 20th SAD testify to the loss 8 SBs at the Grosulovo airfield - M.S.), 2 Pe-2s, 1 I-16, 5 R-5s, 3 U-2s. The total is 23 (corrected by pencil to 20).[167] For —

comparison, we note that the Romanian aviation command reported 37 Soviet aircraft destroyed on the ground, and 8 shot down in air battles. [168] According to D. Khazanov, in the summary of the command of the 4th Air Corps of the Luftwaffe, the losses of enemy aircraft (i.e., the Air Force of the Odessa Military District) were "modestly" determined in we need 16 shot down in the air and 142 destroyed [169] But here on the ground. recall that this enchanting figure also included the losses of the 149th IAP of the Air Force of the South-Western Front in Chernivtsi, which the Germans estimated losses as 102. [170] It is possible that the report of the command of the 4th Air Corps was influenced by the "National Socialist competition" between German aviation formations - against the backdrop of enchanting reports from the headquarters of the 2nd Air Fleet (GA "Center") about thousands of Soviet aircraft destroyed on the ground, real numbers of victories 4 th air corps would

We will also try to sum up some of the results of the first day of the air war on the southern flank of the Soviet-German

front. Both in the 21st SAD and in the 20th SAD, a combat alert was announced at least 1.5–2 hours before the first enemy air raid; greater or lesser losses were not associated with the notorious "suddenness", but with the level of discipline, organization and controllability in parts.

the only episode, allowing recall the generally accepted picture of "a sudden strike on peacefully sleeping airfields", was a raid on the airfield of the 45th BAP in Grosulovo.

A detailed description of the morning raid could not be found. Judging by the stunning result of the enemy's "horizontal" bombers, 10 aircraft were destroyed on the ground with one blow), everything happened in Grosulovo, "as they say in books" - no camouflage, no dispersal, no early warning; planes lined up in even rows in the middle of an airfield flooded with the morning sun, the absence (or inactivity) of anti-aircraft defense systems, the lack of cover from their own fighters from the 4th IAP. Where this set of criminal negligence was completely absent (for example, during a raid of 20 bombers on the Balti airfield at 20.10), the successes of the attacking side (i.e. German-Romanian aviation) were minimal, if not simply zero. In general, nothing even remotely resembling a "destroying first strike" happened. The real irretrievable losses

of combat aircraft of the Air Force of the Odessa Military District (not counting the light communications and reconnaissance U-2 and R-5) amounted to no more than 18–20 aircraft. In other words, less than 2.5% of the original population. Almost all the losses (10 bombers and 6-7 MiGs) fell on one division out of three (20th SAD), but even in it the losses amounted to about 6% of the initial number of aircraft. It is hardly possible to call it the word "defeat". The fact that reality does not look like a propaganda myth of later manufacture cannot be considered

something surprising. Another thing is much more important - the actions of the aviation of the Odessa Military District turned out to be completely different from the pre-war plans of the command of the Soviet Air Force.

[171] Not a single strike on enemy airfields, not a single bombing strike against objects in its operational rear (the failed attempt to destroy the bridge across the Danube near Galati, i.e., about 20 km bombers of the away, became the only "deep raid" from the border, OdVO Air Force) , not a single raid on Romanian strategic facilities (Ploiesti oil fields, Constanta seaport). The very numerous fighter aircraft of the District Air Force were mainly engaged in "self-defense" - they patrolled the sky over their own airfields. This is an important and necessary part of the combat work of aviation, but it should not turn into

in the only one - otherwise it would be cheaper and easier to solve the problem of "self-defense" of aviation through its self-liquidation. Finally, it is necessary

to note the simple and indisputable fact that of the 15 aviation regiments of the district air force, only seven took part in the hostilities on the first day of the war, and the "participation" of the 45th BAP and the 146th IAP was the smallest and turned out to be hardly noticeable to the enemy. On the other hand, three fighter regiments (67th, 4th, 55th IAP) acted with great, almost record-breaking by the standards of the Soviet Air Force, tension (though not always equivalent to the results achieved). Of course, all these shortcomings could be explained and justified to some extent by the turmoil and nervous strain of the first day of the war, in which, alas, "the enemy was able to get ahead of us." It would be rash to draw far-reaching conclusions from the results of one day of fighting. Therefore, we will continue the analysis of the documents of the Air Force of the Odessa District.

2.3. Exchange of blows

On June 23-25, on the southern flank of the front in Bessarabia, the enemy continued (albeit on a somewhat smaller scale) attempts to destroy the aviation of the Odessa Military District at home airfields - with the same meager result as on the first day of the war.

In the early morning of June 23, He-111 bombers from Group III/KG-27 under cover of a large number of fighters (34 Bf-109 from Groups I(J)/LG-2 and III/JG-77) attacked the airfields of the 20th SAD in the region of Balti and Grosulovo. The Germans claimed "15-20 enemy aircraft destroyed on the ground".[172] The documents of the headquarters of the 20th SAD not only do not contain any confirmation of this information, but, in fact, refute it - there is no noticeable reduction in the number of combat-ready aircraft associated with ground losses in the regiments of the division.

The Romanian Air Force began the second day of the war with new attacks on airfields Bolgrad and Bolgariyka.

“Combat report No. 02, headquarters of the 21st SAD, Odessa, by 9.2023.6.41 The 67th IAP carried out an air raid on the Bolgariyka airfield. In battle, the 67th IAP shot down 1 bomber, 1 reconnaissance aircraft and 2 fighters. Has no losses. Beginning headquarters of the 21st SAD lieutenant colonel Kirillov.[173] Operational report No. 02, compiled at the division headquarters by 12.00, clarifies that there were still some losses: “one I-16 burned out in the air, the pilot landed safely by parachute; one forced landing in the Bolgrad area due to engine jamming, the plane went downhill and was wrecked, the pilot died.”[174] Judging by enemy documents, the strike was carried out by 18 Heinkel He-111s under the cover of 16 IAR-80 fighters; this time, despite fierce fighting in the air, all Romanian aircraft returned to base. [175]

On the afternoon of June 23, the 299th ShAP entered combat for the first time since the start of the war. “As a result of an enemy bombing raid on the Spartakovka airfield (16 km south of Odessa. - M.S.), one I-153 burned down on the ground, smashed

one autostarter. 4 Red Army soldiers of 104 AB [air bases] were wounded, four I-153s were damaged."[176] A disappointing start, but it's still too early to talk about "destruction on the ground" - according to Operational Report No. 03 of the headquarters of the 21st SAD, by 22.00 on June 23, 41 I-153 aircraft and 2 I-15bis remained in combat readiness in the regiment.[177]

The next attempt to attack the airfields on which the fighters of the 21st SAD were based was made by the enemy at dawn on June 25. "Combat report No. 04, headquarters of the

21st SAD, Odessa, to 10.3025.6.41 ... 2. In the period from 03:47 to 03:55

on 25.06.41, the Tarutino airfield (the base airfield of the 146th IAP. - M.S.) was bombarded from two aircraft, the type was not determined. Up to 40 100 kg bombs were dropped on the airfield[178]. Everyone exploded. Bombing to no avail. There are no losses. To repel the raid, two MiG-3 aircraft and one I-16 aircraft

took off. Senior Lieutenant Oborin K.D. in absolute darkness, in the direction of the tracer bullets of anti-aircraft machine-gun points, one enemy aircraft caught up. I tried to fire at it, but, due to the failure of all machine guns (not a rare case for a "flash", where the reliable operation of the synchronizers required qualified maintenance. - M.S.), rammed the plane into the left plane. The enemy plane crashed on our territory in the area of the river. Rod. Art. Lieutenant Oborin safely returned to his airfield ...

4. Odessa Military Aviation Pilot School. At 0345 hours on 25 June 1941 the enemy attacked the Vygoda airfield with three aircraft. The dropped bombs landed in three places on the airfield without causing any damage; two bombs did not explode. The camp was fired from machine guns from enemy aircraft. There are no losses. To repel enemy bombers, I-15bis aircraft were

raised into the air, and three attacks were made. When flying at low altitude, the I-15bis aircraft, piloted by pilot Jr. lieutenant comrade Lazarev, hooked on the ground (perhaps this is due to poor visibility at 3.45 in the morning. - M.S.) and hooded. The pilot suffered a shoulder injury and a head wound.

Commander of the 21st SAD Colonel Golunov."[179]

For some reason, the airfield of the 67th IAP in Bolgariyka especially haunted the Romanian Air Force. On June 26, judging by the Opersvodka of the 9th Army Air Force Headquarters, two I-16s were destroyed at the airfield.[180] Another raid

was committed on July 2, this time - by fighters, and again - with a minimal result: “At 16.05 on 2.7.41, the Bolgariyka airfield was attacked by four Hurricanes and five Me-109s, enemy planes fired on materiel and personnel. As a result of the raid, 3 people were lightly wounded.”[181]

The only truly successful for the enemy was a raid on the base airfield of the 5th BAP in Kulevcha. Judging by the description of this episode in Operational Report No. 04 of the headquarters of the 21st SAD, the Germans acted there, and they acted as was customary in the Luftwaffe, that is, boldly, assertively, on the verge of reckless risk. This gave its result:

“At dawn on June 24, 1941, the Kulevcha airfield was subjected to bombing raids [by aircraft] of the Yu-88 type, in groups of 3 to 5 aircraft at an altitude of 40-50 meters; they entered with impunity up to two or three times and fired tracer and incendiary bullets at point-blank range on materiel and personnel, and also carried out serial bombing. Losses: 14 aircraft disabled, including 8 Pe-2s; to be restored - 7, of which three Pe-2s and four SBs. Personnel: one gunner-radio operator and two Red Army soldiers of 30 AB were killed; 4 people of 5 SBPs and 5 people of 30 ABs were wounded ... "[182] Only Non-111s

with the same black crosses on the wings could be accepted for the Junker at low-level flight. The clumsy 12-ton "Heinkel" at a height of 50 meters could be shot down even by concentrated small arms fire, but the lack of proper anti-aircraft cover for the airfield and the confusion of the personnel allowed the Germans to get out of this deadly "air show" alive, and even inflict serious damage on the 5th BAP. losses.

It is noteworthy that even the Germans failed to repeat such a result at fighter-based airfields. Probably the last (before the withdrawal of the Red Army troops from Bessarabia across the Dniester) a massive raid was carried out on the evening of July 3: th GARDEN, 8 km from Chisinau - M.S.). As a result of the raid, 2 I-153s burned down.”[183] Summing up all available information, we get a figure of 27 aircraft of the Air Force of the Southern Front, irretrievably lost on

airfields from enemy influence in the period from June 22 to July 7, 1941. The final annual report of the Front Air Force Headquarters (ref. No. 46003, signed on January 2, 1942) indicates the following figures: in June, 19 aircraft were lost at airfields, in July - 20, which in total is 10.3% of all the irretrievable losses indicated in the report [184] these two for

months of 1941. The attentive reader may still remember that, in accordance with the pre-war plans of the Soviet Air Force command, several thousand (! !!) enemy aircraft were supposed to be destroyed during the first 4-5 days of hostilities by massive air strikes "on established enemy airfields." A specific list of established airfields was also indicated: “Our first strike must be directed against enemy aviation at the airfield hubs of Bacau, Tecuci, Briela, Buzau, Brasov, Ploiesti, Bucharest, Constanta.”[185] In the zone of the Southern Front, the solution of this problem was facilitated by the fact that, due to the extremely limited number of Romanian airfields suitable for the operation of modern aircraft, the base of enemy aviation was very crowded. So, on the morning of June 22, about 150 bombers were concentrated at the Buzau airfield hub, and two Luftwaffe fighter groups were based at the Roman airfield. However, in the operational reports of the units of the Air Force of the Southern Front, with great difficulty it is possible to find at least minimal traces of the implementation (more precisely, attempts to implement) bold pre-war plans. As in many other aspects, the most active (although it

would be more appropriate to say “not as passive as the others”) was the 21st SAD. From the early morning of June 23, the bombers of the 5th SBP launched a series of strikes on objects near the rear of the enemy; one of the strike groups (8 new Pe-2 bombers) was led into battle by the regiment commander, lieutenant colonel Kotlyar: “Operational report

No. 02 by 12.00 23.6.41, headquarters of the 21st SAD, Odessa ... 2. 5 SBP in the period 4.15 to 5.45 on 23.6.41, consisting of 16 SB and 18 Pe-2 (as in the text; judging by other documents, there were fewer combat-ready Pe-2s in the regiment. - M.S.) carried out a bombing raid to destroy enemy aircraft at the Briela and Galati airfields; bombarded the railway stations of Briela, Galati; at 5.37 fr

attacked a column of tanks in the area of Murgeni, Byrlad and a concentration of troops at the crossings near Galati. Dropped 162 pcs. bombs FAB-100 (i.e., an average of 4-6 bombs per aircraft. - M.S.).

According to the observations of the crews, direct hits were noted and they saw [how] the hangars near Galaÿi caught fire. At 5.27 in the Briela area, they were attacked by Me-109 type fighters. 9 PZL-24s were attacked over Izmail (one Romanian fighter was shot down, the pilot died, this was not noted in Opersvodka No. 02. - M.S.); in the Bolgrad area by 5 fighters of an unknown type (they were hardly any other fighters, if not I-16s from the 67th IAP. - M.S.); were fired upon by enemy anti-aircraft artillery in areas ...

As a result of the air battle and [shelling] FOR - losses: the aircraft of the SB st. Lieutenant Kozlov, received 55 holes, disabled the right engine, landed safely at his airfield. Slightly wounded gunner-radio operator Art. Sergeant Laptev. From ZA in the Galati region, a pilot of Art. lieutenant Kokhlenko, made an emergency landing north of Sarat, the plane hooded, the plane was broken, the crew was alive. The Pe-2 aircraft of captain Anisimov has 6 holes [pieces?]. In the Bolgrad area, they fired at their ZA. At 6.23 the rest (without one SB) landed safely at their airfield.

By 10.00, the regiment, consisting of 14 Pe-2 crews and 16 S-B crews, is ready for

fulfillment of combat missions…”[186]

Judging by the very modest loading of aircraft (theoretically, the Security Council could take 12 FAB-100 - 8 in the internal bomb bay and 4 on the external sling) and a long list of targets attacked, the Romanian airfields in Briela and Galati got only a small part of the bomb load; what exactly caught fire in the hangars at the airfield in Galati and how long it burned is unknown. To the credit of the command of the 21st SAD, we note that in the report "On the losses of personnel and materiel of the enemy from 22.6 to 2.7.1941" they did not include these hangars. In the column "destroyed on the ground" there are only 4 Savoy Marchetti bombers.[187] The circumstances of their destruction were as follows: “Combat report No. 04, headquarters of the 21st SAD, Odessa, 10.30 25.6.41 1. During the day 24.6, the 146th IAP made three sorties to escort bombers to the Felchiu area. Three sorties

nines on an air defense call. During the attack on the Buzau airfield, 4 enemy aircraft of the Savoy type were destroyed - they were on fire, the hangar was set on fire, the Buzau railway station was

shelled, and the wagons were on fire. 2. As a result of air combat shot down: PZL-24 - three, "Junker" - one, "Savoy" - four. The regiment has no losses in battle. In the Bolgariyka area, I-16s of the 67th IAP were fired upon and attacked (the pilots of this very active regiment, apparently, made it a rule to shoot down any flying object without being distracted by its identification. - M.S.) - one aircraft received up to 28 holes, out of order. The crew is unharmed…"[188]

The strike on the Buzau airfield (albeit without any specification of the results achieved) was also noted in Operational Report No. 07 of the 9th Army Air Force Headquarters dated 22.00 on June 26: military installations in Iasi and Khushi."[189] The day of June 26 is significant for the aviation of the Southern Front with a record number of bomber sorties —

(151 SB) and the weight of bombs dropped on the enemy (60 tons)[190] . This, in particular, is explained by the fact that the 132nd BAP from the 45th SAD took an active part in the hostilities, as well as the 317th reconnaissance aviation regiment subordinate to the front air force headquarters (in terms of combat vehicles

- 4 SB - quite "bomber"). As early as June 23, it was decided to relocate the 132nd BAP from distant Kirovograd to the airfield in the Razdelnaya area (60 km north-west of Odessa), and already on the evening of June 23, the first 9 bombers of the 132nd BAP struck at the Romanian railway stations in Iasi. The same ancient city became the object of a massive strike (the most powerful for the entire period of hostilities in Bessarabia) on June 26th. The absence of fighter cover for the bombers[191] - all the more strange since the city of Iasi is located at a distance of only 15 km from the border, i.e., within the reach of all the fighter regiments of the air force of the front - led to heavy losses: "..A. 45 SAD, consisting of 65 aircraft, raided the city of Iasi and the airfield, the city was set on fire. Over the

city of Iasi, 15 Me-109 aircraft were attacked. Bomber machine-gun fire shot down 5 Me 109 aircraft. Losses: 5 SBs were shot down, 9 SBs did not return to their airfield, 2 of them made an emergency landing in the Ungheni area.

317 RAP destroyed enemy troops in the Skuleni region and destroyed the city of Iasi. A large number of fires have been noted. Fifty sorties were made…"[192] It is difficult to say why the ill-fated city attracted such attention from the command of the Air Force of the Southern Front; in any case, there were no large enemy aviation forces at the Iasi airfield, located at a distance of artillery fire from the border. Fortunately, the loss of flight crews was not as great as the first reports might suggest. In Operational Report No. 09 of the Air Force Headquarters of the 9th Army (23.00 27.6) we read: "Out of 14 crews of the 132nd BAP who did not return on 26.6, 8 crews were found today."[193] The same report also reports the destruction of one Blenheim on the ground.

On July 3, the Air Force of the Southern Front finally struck at the large Romanian airfield Roman (the main airfield for basing fighter squadron JG-77), however, with negligible forces: "2 SAD 3 MiG-3 aircraft at 12.00 at the Roman airfield found up to 35 Me- 109, 12–13 Me-110, up to 35 Blenheim and Yu-87. As a result of the attack, one Me-110 was burned (there were no aircraft of this type in the Romanian theater at all. - M.S.). In the Bykovets area, the link fought with 3 Me-109s, one Me-109 was shot down. In total, on this day, according to Operational Report No. 24, 4 enemy aircraft were destroyed on the ground.[194]

In total, it turns out that from June 22 to July 7, Soviet pilots announced the destruction of 9 enemy aircraft on the ground, in addition, in the operational reports and combat reports of the units there are reports of strikes against enemy airfields without any specification of the results. In the final annual report of the headquarters of the Air Force of the Southern Front, it was stated that in June 41 enemy aircraft were destroyed at enemy airfields, and in July - 28 enemy aircraft.[195]

Unfortunately, even these rather modest achievements are not confirmed either by the currently known documents of the enemy, or by the operational reports of units and formations of the Air Force of the Southern Front. The notorious "magic wand" in the form of a devastating blow to airfields did not work - neither from west to east, nor from east to west. Magic wands are only in fairy tales, so it is not surprising that none of the opposing

the parties failed to destroy enemy aircraft on the ground. It is more difficult to understand something else - why the aviation of the Southern Front did not even try to solve the most important task, envisaged by pre-war plans, of destroying

the Romanian oil fields. Before proceeding to the consideration of the factual side of the matter, it apparently makes sense to decide on the "price of the issue." This is especially important, given that in recent years there has been a shift from one extreme to another in assessing the significance of this problem. Traditional Soviet historiography did not see any problem at all, and the fact that there were no massive air strikes - in the presence of large forces of Soviet bomber aviation and an "unsinkable aircraft carrier" in the form of airfields in Odessa and Crimea - was perceived as a natural phenomenon that did not deserve discussion. In this issue (as in many others),

V. Suvorov acted as a "troublemaker". In his characteristic bright - on the verge of grotesque - journalistic manner, V. Suvorov stated that if at least one Soviet tank could reach the Ploiesti oil fields, and a box of matches would be found in the tanker's pocket, then the military machine of Nazi Germany would be immobilized. A

heavy FAB-500 bomb (and even a light Soviet SB bomber of the latest modifications could lift three such bombs) is capable of producing an effect much greater than a box of matches. With the filing of V. Suvorov, a heated discussion began in the historical literature, the participants of which expressed polar opinions: from bitter regrets about the Great Missed Chance to peremptory statements that the Germans could do just fine without Romanian oil. In my opinion, in this case, the truth lies in the middle of extreme estimates.

The undoubted fact is that the German Wehrmacht won the entire war on liquid fuel obtained by processing coal (the so-called "synthetic gasoline"). It was this gasoline that was poured into the fuel tanks of German tanks, armored personnel carriers and vehicles. The synthesis technology was developed by German chemists as early as 1926, at the same time the construction of the first industrial plant began. In 1941, 4.3 million tons of "synthetics" were produced in Germany, in 1943 - 6.6 million tons. In order to

To appreciate these figures, let us recall that the Soviet Union, which had the largest oil production in the Old World, during the war years produced an average of 4 million tons of gasoline (all grades) per year. The creation of grandiose production capacities for the production of liquid fuels can rightfully be called a scientific, technological and organizational achievement of an unprecedented scale. Germany, however,

fought not only on land, but also in the skies and at sea. Moreover, if for the USSR the actions of the Navy were nothing more than insignificant episodes of the war, then for Germany the “sea front” was one of the most important: only on water and under water, with a naval blockade, could Hitler Germany effectively influence its chief in the initial period of the war enemy, Great Britain. Moreover, this impact was twofold: firstly, the enemy was losing millions of tons of food and industrial raw materials at the bottom of the sea; secondly, war at sea forced the enemy to spend colossal resources on the production of surface and submarine warships, thereby reducing the ability of British industry to create strategic bomber aircraft capable of attacking Germany. As for the "air front", its significance does not need to be proved, and since the summer of 1943, after the start of massive bombing of Germany by Allied aircraft, this "front" has become decisive for Germany. Surface ships needed fuel oil or diesel fuel, submarines needed diesel fuel, aircraft needed high-octane aviation gasoline[196] All this could only be

obtained from oil, from natural liquid oil. On the territory of Germany within the borders of 1933, no more than 0.3 million tons of oil were produced (by a strange irony of fate, exactly a hundred times less than in the pre-war

USSR). After the Anschluss of Austria, after the occupation of the Czech Republic, Poland, Yugoslavia, the Reich's own oil production reached 1.3-1.6 million tons. Theoretically, using advanced cracking technologies, up to 500 thousand tons of aviation gasoline could be obtained from such an amount of oil - a little less than was produced in the USSR. However, oil products were also needed by many other consumers (Navy, petrochemical enterprises), to

besides, the Germans were not going to keep their aviation, fighting on many fronts, on a "starvation ration". Accordingly, the export of oil became vital for Germany.

Distant overseas oil suppliers were cut off from Germany by the actions of the British fleet; oil supplies from the USSR were very modest and did not allow the creation of significant reserves (in just a year and a half of the “great friendship”, Hitler received no more than 1 million tons of oil products of all kinds from Stalin). After June 22, 1941, they stopped altogether (if we do not take into account the huge amount of gasoline seized by the Germans in the warehouses of the western military districts of the USSR). In this situation, the main source for Germany (and, by the way, for fascist Italy with its huge navy) was Romania, which supplied Germany with about 2.2-2.5 million tons of oil (and light oil products - a very important clarification!) in year. Another 0.4-0.5 million tons were exported from Hungary. The general conclusion from what

has been said will be this: it was impossible to stop Germany with a box of matches at Ploiesti, but the systematic destruction of the Romanian oil fields and refineries could put the German aviation and navy in a difficult situation. Which, by the way, was clearly demonstrated in the last months of the war - long rows of German aircraft were visible to the naked eye, filling the factory sites and military airfields; there were still planes, and German aviation almost did not appear in the air. Returning to June 1941, we can state that it was impossible to think of a more effective way to

use the bomber aircraft of the Air Force of the Odessa District and the Black Sea Fleet than inflicting a massive strike on oil facilities in Romania. If a raid on enemy airfields at best could lead to the destruction of several hundred aircraft - the damage that German aircraft factories made up for in three or four weeks, then the destruction of oil fields could, although not suddenly and not immediately, chain enemy aircraft to the ground as such.

Three points could be considered the main objects of the Romanian oil infrastructure: the Ploiesti oilfield area, the oil terminals of the Black Sea port of Constanta and connecting two

the first points of the bridge across the Danube near Chernavod[197] . All of them (as well as "oil refineries near Bucharest and an oil depot near Bacau") were named "by name" in the pre-war operational plans of the Soviet Air Force.[198] The distance to these objects from the Soviet-Romanian border was 130-180 km, from the base airfields of the bomber regiments of the Air Force of the Odessa District (Grosulovo, Akkerman, Kulevcha) - no more than 250-330 km in a straight line. From large airfields of the Air Force of the Black Sea Fleet (Sevastopol, Yevpatoria) - about 500-600 km, from Zaporizhia (the area where the 22nd air division of the RBA is based) - no more than

800 km. The smallest and lightest Soviet bomber, the Su-2, had a range of 1,190 km (with a normal bomb load of 400 kg). The most massive bomber of the Soviet Air Force (SB / Ar-2) had a range - depending on the weight of the bomb load - from 900 to 1300 km. The long-range bomber DB-Z / DB-Zf (aircraft of this type were in service with the 22nd air division of the DBA and the 2nd mine-torpedo regiment of the Black Sea Fleet Air Force) with a bomb load of 1 ton could fly 3000 km. Conclusion: in June 1941, any Soviet bomber could bomb Ploiesti and Constanta, this did not even require additional redeployment of air units (although at least until mid-July the airfields in the south of Bessarabia could be successfully used as a so-called "airfield jump" for having a relatively short range of SB bombers from the Air Force of the Black Sea Fleet). Moreover, the use of the border airfields of the Odessa Military District (Bolgrad, Bolgariyka, Izmail) for basing fighters made it possible to cover the bombers throughout the flight over

enemy territory. "Migi" and "gulls" had a flight range of more than 600 km. The flight range of the "donkey" was less (440 km), but back in 1939, external fuel tanks were developed, tested and put into mass production, using which the I-16 flight range exceeded 600 km. The tanks were made of special cardboard, which, when hit by a bullet or a fragment, did not give burrs that prevented the self-tightening of the hole in the rubber protector. The last production series of the I-16 were necessarily equipped with a pair of hanging tanks.

Finally, as a long-range escort fighter, it was possible, with certain reservations, to use the Pe-2 bombers, which, in terms of maximum speed (540 km / h), significantly exceeded both our I-16 and most of the fighters of the Romanian Air Force[199] The Germans treated the creation·

of factories for the production of synthetic "coal gasoline", just as frivolously they approached the provision of air defense of the Romanian oil fields. The composition of the so-called. The “Luftwaffe mission in Romania” included a single fighter group III / JG-52, which (together with the fighter squadron headquarters) was armed with 47 Messerschmitts. By the beginning of the war, the entire group was based in the Bucharest-Ploiesti region, but after the very first air raids of the Black Sea Fleet, the Germans hastily relocated two out of three squadrons to the Mamaia airfield in the Constanta region.

The ground air defense of Constanta had 18–20 flak batteries and a dozen searchlights; Air defense of the main oil-bearing region of Ploiesti - also about 12-15 searchlights and 30 anti-aircraft batteries.[200] There were no radars at all (although by the summer of 1941, for the Germans, this “miracle of technology” was already a fully mastered element of the air defense system of important stationary objects). One anti-aircraft battery is, as a rule, four guns firing according to data from one fire control device (POISO). Thus, about 80-120 guns looked into the sky of Ploiesti or Constanta. Is it a lot? Everything is relative.

Ground air defense of Baku was armed with 420 medium-caliber guns, 320 small-caliber guns and anti-aircraft machine guns, 564 searchlight stations. The 2nd Air Defense Corps, which covered Leningrad, was armed with about 600 85 mm guns, 246 76 mm guns, 60 small caliber guns, 230 anti-aircraft machine guns and 483 searchlight stations. By the beginning of the first German raids, on July 22, 1941, the Moscow air defense system had 1,044 anti-aircraft guns (mostly 85 mm), 336 anti-aircraft machine guns, and 618 searchlight stations. ([201] , [202]) And this despite the fact that the main means of Soviet air defense was not anti-aircraft artillery at all, but fighter aircraft, numbering many hundreds of fighters in the Moscow and Leningrad region.

To complete the assessment of the situation, it remains only to recall that everything related to oil (oil fields, refineries, oil product storage facilities) is the most “convenient” target for bomber aircraft. Industrial production, processing and transportation of oil is impossible in miniature volumes. The objects of the oil complex are large stationary structures, clearly visible from the air for tens of kilometers, unmasked by access railways, overpasses, port terminals. Finally, the oil burns. It burns with a bright flame, and this flame made it possible to solve the problem of targeted night bombing, almost insoluble for aviation in the early 40s. All that was required was to ignite the enemy object well and for a long time.

The air defense system of the Romanian oil fields organized by the Germans could, with the reliability necessary to protect such vulnerable and fire hazardous objects, repel a daytime raid by a small group (one or two squadrons) of enemy bombers. A massive attack was bound to end in the defeat of the target. There was practically nothing to repel night raids (there were no radars or specially trained night fighters). Barrage of anti-aircraft fire across the night sky, illuminated by a dozen searchlights, was not much more effective than fireworks ...

As part of the Soviet aviation deployed in the Southern theater of operations, there were (including temporarily out of order aircraft) more than half a thousand bombers: 230 in the Air Force of the Southern Front (and this is not counting the Su-2), 130 in the Air Force of the Black Sea Fleet, 190 in the 22- and Air Division TWO. The first, only and last air strike on Ploiesti was carried out by the aviation of the Southern Front on

the night (i.e. blindly) of June 27: “Operational report No. 8.00 27.6.41

“During the night from 26 to 27, two Pe-2 5 SBP aircraft from a height of 5000 m (emphasized by me. - M.S.) dropped 8 FAB-100 and 8 ZAB-50 on the city of Ploiesti. 35,000 leaflets were dropped from the border to Ploiesti. The planes landed at their airfield, there are no holes ...” [203]

The documents of the Air Force headquarters are silent about the results of such a “crushing blow”. Taking into account the very modest set of navigation equipment on the Pe-2 (after all, this aircraft, as a in the daytime dive bomber, was created intended for operations enemy’s close operational rear), even the fact that the crews of two “pawns” in pitch darkness could at least find the city of Ploiesti or its environs. Any kind of targeted bombing from a height of 5 km at night was out of the question. The Air Force of the Southern Front did not make any other real attempts

to strike at Ploiesti. We find traces of one failed attempt in Order No. 7 of the headquarters of the 21st BAD (given at 17.00 on 03.07.41): “1. The oil-bearing region of Ploiesti and the city of Ploiesti with a large number of oil

refineries plays a large role in supplying enemy troops with fuel. The Ploiesti area and the city itself are heavily covered by fighter aircraft and FOR. Aviation is based at the airfield nodes Tekuchu, Remnikul-Serat, Buzau. Weather: stratocumulus H 300–600 m, 7–

8 points,

northwest wind.

2. On the right, during the night from 3.7 to 4.7, 2 ° CBP is valid for oil-bearing areas of Ploiesti, bombing height 4000 m.

3. 21 GARDEN 3.7.41 sets fire to the oil region of Ploiesti. Targets #1, 2 and 3. During the night from 3.7 to 4.7 sets fire to the oil depots and refineries of Ploiesti. 4. 5 BAP at 20.003.7

consisting of 9 Pe-2 set fire to oil depots, oil refineries (targets No. 1, 2 and 3) in the Ploiesti area. Flight route: Brieni, Bulgarian, st. Liesti, Dumnitray, Ploiesti. Overflight of the border at H-6000 m. Flight to the target with a decrease, dive bombing. Up to st. Lieshti is escorted by MiG-3 146 IAP fighters. From 22.00 on 3.7 until dawn on 4.7, single aircraft and pairs of SBs will bomb the oil

depots in the city of Ploiesti. Bombing height 4500 m. Flight route ... 5. 146 IAP consisting of 9 MiG-3 aircraft escort 5 BAPs to Lieshti station at an altitude of 3000 m, distracting VNOS

posts. After

retreat from bombers destroys enemy aircraft at the Rymnikul-Sarat airfield. Meeting
of bombers with fighters over the airfield Bolgariyka N-3000 m. 7.
Signals for the bombers when returning back and when meeting with our fighters day and night - two red rockets. 8. My
checkpoint is airfield No. 1 in Odessa. Colonel Galunov, commander of the 21st SAD."[204] The order quoted in such detail
is remarkable for several
reasons. First, it follows from it that
the importance of the task of destroying the oil fields of Ploiesti was clearly realized. Secondly, it turns out that there was also an understanding that the oil region must first be set on fire, and only after that effective night raids would become possible. Thirdly, even assessing the situation as "the city is heavily covered by fighter aircraft and ZA", the division command planned not a powerful massive strike of bombers covered by a large formation of fighters, but a series of "pin pricks", which could only lead to heavy losses in aircraft. However, there are no traces of the implementation of Order No. 7 in the documents. Moreover, already at 1.30 am on July 4, Order No. 8 was issued, according to which a new old task was set for the air regiments of the division: "From dawn on 4.7, destroy enemy aircraft at the airfield hubs Tekuch, Briela, Galati."[205] More to the topic of the destruction of the Romanian oil fields in the headquarters of the Air Force of the Southern Front did not return - even on paper. The
long-range bomber aviation of the High Command (22nd air division of the RBA) began raids on objects of the Romanian oil complex on the night of June 26. Of the three fully equipped air regiments of the division, only the 21st DBAP took part in the raid, which, having 50 combat-ready aircraft (there were 72 in total as of the beginning of June 41st), completed only 17 sorties. Even these feeble forces were divide

who attacked Constanta, Ploiesti and the Romanian capital Bucharest. Five DB-3s flew to Constanta, three of which did not return from the combat mission. In Bucharest, one link was bombed, which, from a high altitude (7 km) in the darkness of night, dropped two dozen bombs on the city (9 FAB-250 and 12 ZAB-50), resulting in only panic among the civilian population, a noisy propaganda campaign in Romanian newspapers and even one bomber shot down while retreating from the city.

Район боевых действий ВВС Южного фронта в июне 1941 г.

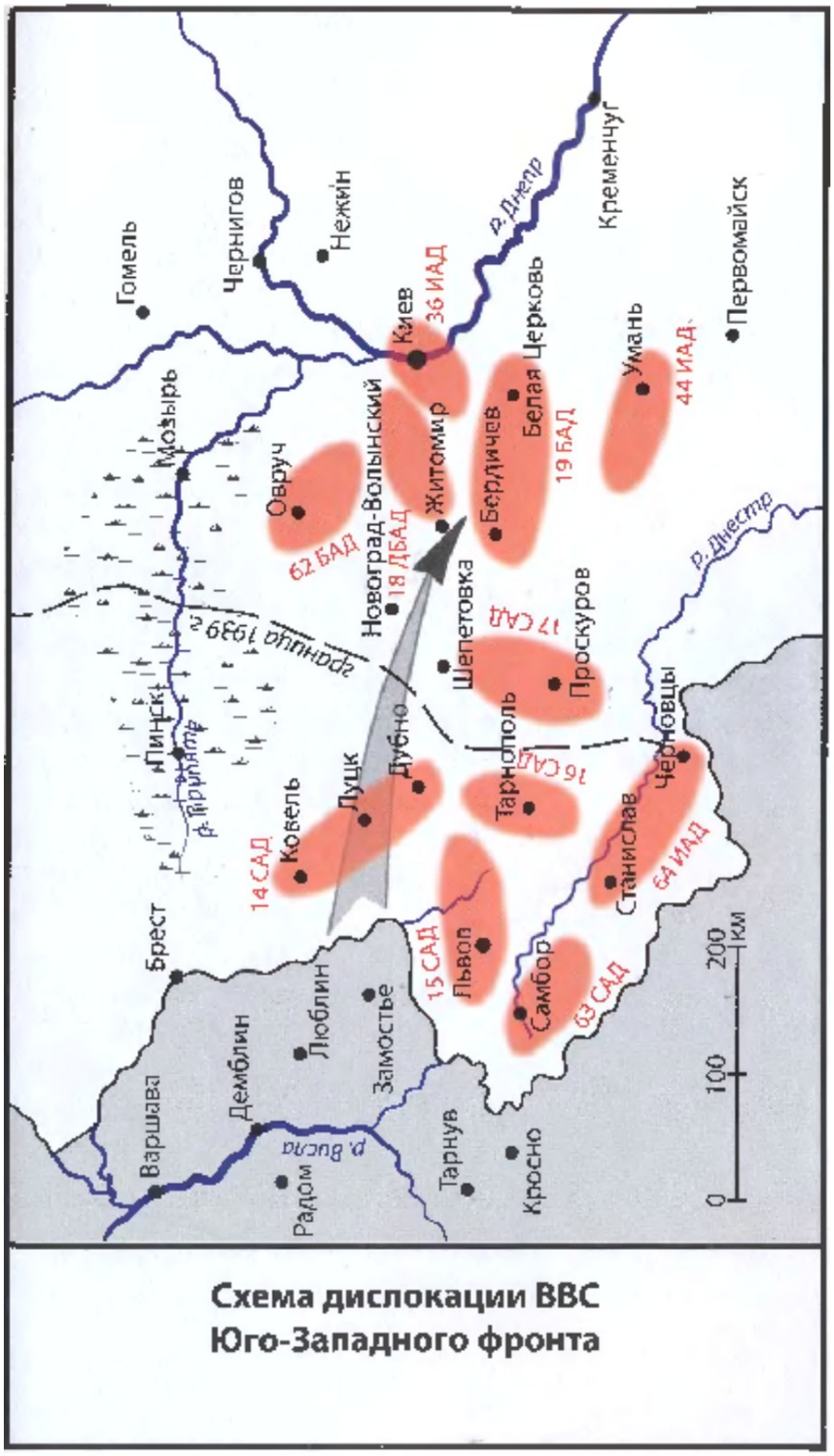
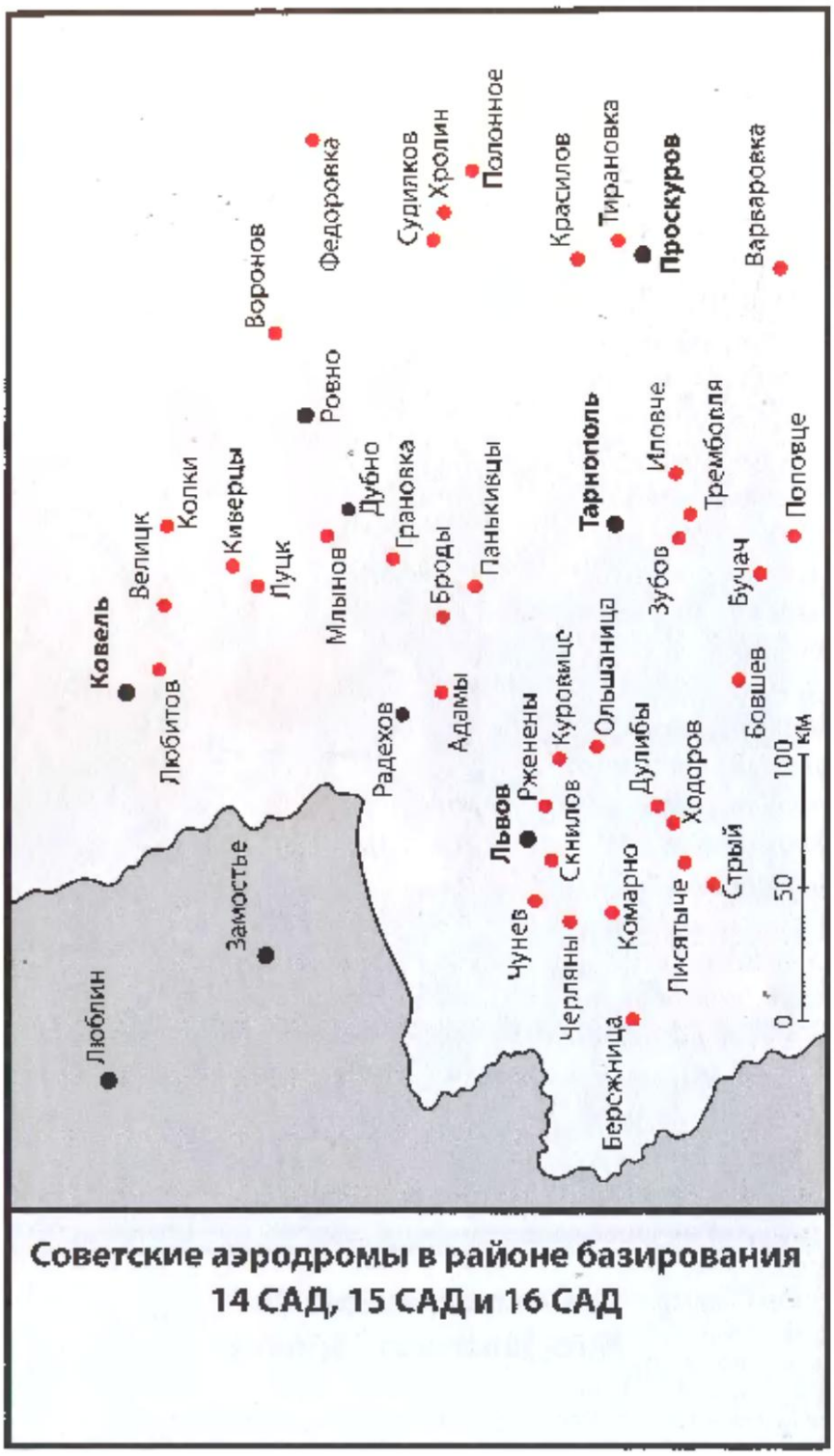


Схема дислокации ВВС Юго-Западного фронта



Советские аэродромы в районе базирования 14 САД, 15 САД и 16 САД

Over the next five days, the 22nd AD was gathering strength, after which, on the night of July 2, it sent 14 aircraft to a raid on Ploiesti, of which 4, not reaching the target, returned due to "failures

materiel", and 5 more "didn't find" (?) Ploiesti and bombed out [206] —

Bucharest. On July 2, German and Romanian troops launched a rather belated (in relation to June 22) general offensive in Bessarabia. On the same day, the Headquarters of the Civil Code ordered the 4th Corps of the DBA (which included the 22nd AD) to support ground troops and subject the areas of concentration of enemy ground troops and crossings on the river to a massive blow. Prut - accordingly,

the Romanian oil fields received a new long respite. However, on July 9, 1941, the General Staff of the SC (Directive No. 00257) again demanded a crushing blow on the Romanian oil fields and "subsequently, with systematic raids, to prohibit restoration work." In pursuance of this directive, on July 13, 14 and 15, the 22nd air division of the RBA carried out 28 night sorties on Ploiesti. According to the reports of the crews, powerful fires broke out in the city. On the night of July 15, several Soviet bombers dropped 17 bombs on Bucharest, including one RRAB[207] , which, however, did not work and was found on the ground within the city.[208] Bomber aviation of the Air Force of the Black Sea Fleet to strike at Ploiesti from July 1 to August 18, in the course of 22 raids, carried out 81 sorties (almost all at night).[209] Taking into account the initial strength of the Fleet Air Force (130 bombers, including 55 long-range ones), such a number of

sorties could well have been carried out not in a month and a half, but in the course of one massive raid. As you can easily see, on average, 4-6 bombers participated in one raid on the rear areas of Romania. The enemy could only dream of such an amazing "tactic" of Soviet aviation - it was she who allowed even those very modest forces and means available to the Ploiesti air defense system to inflict significant losses on the attackers. The "successive strikes in small groups" setting, which became a real curse for the Soviet Air Force in the first months of the war, could still have some meaning when raiding enemy motorized columns (the Germans did not have enough fighters in numbers sufficient for continuous patrols over all roads, and in

could avoid meeting with the Messerschmitts). During the raids on well-known oil fields covered by ground-based air defense and fighters, it is not possible to find a reasonable explanation for such a suicidal tactic. The losses would undoubtedly have been even greater if the Soviet bombers had bombed "in German": during the day, aiming, from medium and low altitudes - that is, if efficiency had not been so unconditionally sacrificed for safety.

Not a single attempt was made to organize interaction between the DBA and the Air Force of the Black Sea Fleet with the neighboring Odessa District. For the Soviet, allegedly "strictly centralized" state machine, the task of organizing joint military operations of three different "departments" turned out to be insoluble. The fighters of the Air Force of the Southern Front never covered the bombing raids of their "neighbors"; the airfields of the south of Bessarabia were not used to relocate Black Sea Fleet Air Force fighters to them (and the fleet aviation had its own fighter aircraft, and by no means small: three air regiments and three separate squadrons, which were armed with more than 300 fighter aircraft, including 19 new MiG-3), nor as "jump airfields" for long-range bombers (which would significantly increase the weight of the bomb load). The only exception to the general unsightly “rule” was the episode of July 13, when six Pe-2s from the 40th BAP of the Black Sea Fleet Air Force moved to one of the Moldovan airfields to carry out a daytime raid on Ploiesti.[210]

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And yet, even a successive chain of "mosquito bites" could not but inflict a certain amount of damage on the enemy. In total, more than a thousand high-explosive bombs were dropped in the area of Ploiesti and Constanta. It did not come without consequences. Particularly severe destruction was noted after the bombing

14-15 July. The Izvestia newspaper reported in those days that "as a result of Soviet air raids on Ploiesti, 200,000 tons of various oil products were destroyed during the week." This message (with or without quotation marks), this enchanting figure (200 thousand tons of fuel) has been fluttering from book to book, from author to author for more than half a century. It's a pity - even acting within the framework and conditions of military propaganda (which cannot be true by definition), the Izvestia newspaper nevertheless informed the understanding reader

“200,000 tons” was told to her by a “New York Times correspondent”, referring to information from foreign military sources in Ankara…”. Two figures

can serve as an objective result of the failed destruction of the Romanian oil fields, which does not need lengthy comments: the supply of Romanian oil products to Germany not only did not decrease, but also increased from 201 thousand tons in June to 375 thousand tons in September[211] . Let us —

return, however, to June 1941. In accordance with the annual report of the headquarters, the Air Force of the Southern Front completed 2336 combat sorties in 9 days of June (in July - 6998).[212] For the bombing of the oil fields of Romania, two sorties were used - less than one thousandth. The bombardments of large industrial and transport facilities in the operational rear of the enemy (Brashov, Buzau, Rimnikul-Serat, Faurey, Cernavoda, Bucharest) provided for by the pre-war plans did not happen at all (at least nothing is said about them in the available documents). The exact number of sorties aimed at strikes against enemy airfields cannot be established, but the available information allows us to estimate their number at 100-150. Nothing more. For the solution of what tasks were the rest, that is, about 95% of their total number,

sorties made? First of all, it should be remembered that the aviation of the Odessa Military District (Southern Front) consisted of fighters by two-thirds. And taking into account the fact that fighters consume less gasoline, prepare for a sortie faster and fly more often, their share in the total number of sorties becomes even greater. So, for example, in the 20th SAD from June 22 to 30 inclusive, the 55th IAP completed 679 sorties, the 4th IAP - 494, the 45th BAP - 117 and the 211th BAP - D); thus, fighter sorties accounted for 86% of the total number[213] Exactly the same proportion is observed in the results of the combat work of the 20th MAD in the period from June 22 to August 21: fighter sorties (4762 s / a) account for 86% of the total number of sorties by the

Fighter sorties were spent mainly on patrolling and air cover of their own airfields, troops, and transport hubs. For example, during the first four days of the war, fighters of the 4th IAP completed 204 s / v for patrolling, covering and intercepting enemy bombers, 36 - for

escort of their bombers, 6 - for reconnaissance, and only 45 sorties - for attacking enemy troops and airfields.[215] In the future, however, the division's fighters were much more often used to attack and bombard ground targets (enemy troops, bridges, crossings, airfields). To solve these problems, in the period from 22.6 to 21.8, 1690 s / v were made, i.e. 36% of the total number of sorties of the 4th IAP and the 55th IAP. [216] Patrolling in the air was largely

"excessive" (although it must be admitted that in the absence of radars, and even a developed system of visual airborne surveillance, there was no other way to organize cover), since meetings with an air enemy were very rare .

The following episode can be considered characteristic of the situation

of those days: "...3. The 67th IAP for the period from 4.00 to 22.00 on 24.6.41 made 126 sorties (an average of three sorties per serviceable aircraft - a very high figure for the Soviet Air Force. - M.S.) with the task of destroying enemy aircraft in the air in the sector Cahul, Reni. There were no encounters with the enemy during the patrol. Flight time 67 hours 26 minutes[217]"

On the same day, June 24, another fighter regiment

of the 21st SAD had a meeting with the enemy, but somehow

strange: "...5. The 69th IAP made 95 sorties from 0400 to 1200 to patrol, reconnaissance and intercept the enemy. Flight 74 hours. 5120 rounds expended. At 11.30 in the area of st. Separate 15 I-16 aircraft met 18 enemy bombers, the enemy was driven away by fire. One bomber was attacked over the airfield - it went into the clouds, the type was not established. No casualties or shot down ..."[218] The fact that encounters with

the enemy in the air (at that time and on the Southern Front) were very rare is confirmed by the totality of statistical data. Thus, the fighters of the 20th SAD during the two months of the war completed 4762 sorties, while only 173 air battles took place, after which 75 enemy aircraft were declared shot down (63 sorties per declared victory is a very low indicator). In the period from June 22 to June 30, the 4th IAP used an average of 138 rounds per flight, the 55th IAP - 133

cartridge.[219] This is a negligible expense - a little more than one second of continuous firing for 4 machine-gun modifications of the "donkey" or about two seconds for the "flash". Considering that the ammunition load of Soviet fighters of that time (I-16, I-153, MiG-3) provided about 25-30 seconds of continuous firing, we can make a well-founded conclusion that in June 41 9/10 of all sorties fighters ended without air combat with the enemy.

All these average figures in no way refute the fact that air battles - sometimes very dramatic - took place several times a day. One of these episodes, which took place on the second day of the war, is described in the stingy lines of Operational Report No. 03 of the headquarters of the 20th SAD dated 22.00 on June 23:

“... The 4th IAP at 11.30 from the Revak airfield raised 5 MiG-3s to destroy the 5 Me-109s that appeared. In an air battle, 2 Me-109s were shot down, which landed in the Genchesty area; one pilot was wounded, sent to the hospital in Chisinau, the other unharmed, sent to the NKVD. These aircraft were shot down by the squadron commander Captain Karmanov.

At 16.30, 4 MiG-3s were raised from the Revak airfield to destroy 4 Me-109s that appeared over Chisinau, and 9 I-153s were raised from the Grigoriopol airfield. In the ensuing air battle, three aircraft were lost: one MiG-3, the squadron commander, Captain Karmanov, was killed, the aircraft was destroyed; one I-153 was set on fire in an air battle, the aircraft and the pilot burned down; one I-153 was hit, landed south of the Chisinau airfield, the pilot Geraskin was wounded in the head and broke his leg; sent to the infirmary. When landing at the Grigoriopol airfield, the pilot landed with the landing gear not extended on the I-153 ... "[220]

Enemy documents record the morning loss in the Chisinau region of one Bf-109 fighter from the 6th squadron of the JG-77 squadron. The next battle (at 16.30) was really started by one flight (4 fighters), but then another 12 "Messers" of group III / JG-77 came to their aid.[221] It can be assumed that the Germans, angry at the death of their fellow soldier, decided to take revenge. Thanks to clear interaction and well-developed tactics of group air combat, they succeeded. I found this episode

reflected in the above-mentioned "Analysis of the work of units", compiled on June 28 by the commander of the 20th SAD:

"…8. Air combat was not taught or instructed to air combat by the regimental commanders, as a result of which in battle we did not achieve mutual assistance, cunning, deception of the enemy and use [for] masking the sun, clouds for surprise attacks; thanks to this, the battles are fought with heavy losses for us (the death of Captain Karmanov, who fought heroically and died only due to the lack of support in the battle of each other).[222]

As for the bomber regiments of the Air Force of the Southern Front, the bridges and crossings on the river became the main point of application of their efforts. Prut and bridgeheads on its eastern bank, captured in a number of places by the Romanian troops. As far as can be judged from the available documents, units of the 21st SAD operated with the greatest tension on June 23 and 24 in the area of the border town of Falchiu, where the enemy captured two bridges (road and railway) across the Prut and tried to develop an offensive deep into Bessarabia. In Opersvodka No. 4 of the Air Force Headquarters of the 9th Army dated 24.00 23.6.41 we read:

“The 5th BAP at 14.50, consisting of 12 SB aircraft and 9 Pe-2s, destroyed enemy tanks (the 15th and 35th Romanian infantry divisions were operating in the Falciu area, there were no “enemy tanks” there at all. - M.S.) in the Falciu area. As a result, a large number of infantry, artillery and tanks were destroyed. The commander of the cavalry corps and all the personnel in whose sector the aviation regiment operated express their deep gratitude to the flight personnel for their active actions.[223] The bombing of Falchiu continued the next day.

Operational report No. 04 of the headquarters of the 21st SAD describes it this way:

“…2. Until 12.00, the 5th BAP, consisting of two nines, bombed the accumulation of tanks and enemy manpower at the crossings of the western bank of the river. Prut in the Falciu area. According to the observations of the crews, the bombs were dropped on the target. The enemy is demoralized. Bombing height 3000-4000 meters ...

…3. The 299th ShAP, as part of the regiment, squadron by squadron, from 7.30 to 7.40 on 24.6.41 raided enemy tanks and manpower in the area of Cahul and Falciu. The raid was successful. All planes returned to their airfield. The regiment did not fly again due to

for lack of bombs and fuel. The planes were refueled for one sortie - no more ... "[224] The

enemy was really demoralized and by the evening of June 25 he was thrown back behind the Prut; both bridges were blown up by Soviet sappers. For these battles, the 72nd and 108th cavalry regiments were awarded the Orders of the Red Banner. It is noteworthy that the legendary General P. Belov (in those days - the commander of the 2nd Cavalry Corps) in his post-war article "Cavalrymen on the Southern Front" also recalls the successful operations of aviation (albeit confusing types of aircraft): "The headquarters of the 9th Army organized support by a squadron of attack aircraft (P-5 aircraft). By the united persistent efforts of our troops, the enemy's bridgehead position in the Falchiul area was liquidated. (18

The day of June 24 was a record for the number of bomber sorties for the 20th SAD. The main object of the strikes was the accumulation of enemy troops and crossings in the area of Skulyany, Ungheni. The 45th BAP flew 54 sorties by SB and Pe-2 aircraft (almost half of their total number for the entire period from June 22 to June 30).[225] Eight serviceable Su-2 sa-flights from the 211th BAP completed 24 sorties that day

- an unusually high level of tension for the bomber regiments of the Soviet Air Force, however, it must be taken into account that in the emerging 211th BAL there were seven pilots more than serviceable aircraft - and dropped 36 FAB-50s and 119 AO-25s on the enemy.[226] In most cases,

bomber sorties were fairly reliably covered by fighters; an indirect but quite convincing confirmation of this can be the very low consumption of cartridges for the defensive armament of the bombers. Thus, from June 22 to June 30, the 211th BAP carried out 11 group sorties, and only two of them recorded the consumption of cartridges for the navigator's machine gun (on the two-seat Su-2, it was he who performed "part-time" the duties of an air gunner); in total, 1850 rounds were used up for 17 sorties[227] In two regiments of the 21st SAD (5th BAP and 299th ShAP) from June 22 to 2 .

July, not a single aircraft was lost in air combat. In

the last days of June, the intensity of the combat work of the Air Force of the Southern Front is significantly reduced, the total number of aircraft

sorties drops from 400-450 in the first days of the war to 120-150; some regiments (in particular, the 45th BAP) are simply inactive. Of the notable events of these days, two episodes of the use of Ar-2 dive bombers from the 45th SAD can be noted (in those days, dive bombing was such a rarity for the Soviet Air Force that attention was paid to it in the Operational Data of the Front Air Force Headquarters!): "... 4. 45 SAD at 15.12 on 27.6.41, 9 Ar-2s destroyed

enemy artillery in positions in the Kirpintsy area. They approached the Target at H-4200 meters, the withdrawal from the peak was 1500 meters. Losses: one Ar-2 aircraft was shot down by ZA fire, burned out ... At 14.25 on 28.6.41, 6 Ar-2s under the cover of 6 I-16s attacked the pontoon bridge near Kirpintsa. The bombs fell over the air, the bridge was not destroyed…"[229] The temporary lull at the —

front was blown up on July 2, 1941, when the German-Romanian troops launched a decisive offensive. The main blow was delivered on the right (northern) flank of the Southern Front, that is, under the southern base of the Lvov ledge. The enemy sought to overcome the interfluve of the Prut and Dniester along the shortest route, force the Dniester in the Khotyn, Mogilev-Podolsky sector and carry out an operational breakthrough on the adjacent flanks of the Southwestern and Southern Fronts of the Red Army. It can be assumed that Soviet intelligence at the last moment revealed the intentions of the enemy, because late in the evening (at 23.50) on July 1, the headquarters of the Air Force of the Southern Front received a cipher telegram No. 153 from Moscow:

"To the commander of the Air Force of the 9th Army, the commander of the 4th air corps of the DBA of the Air Force of the 9th Army and the 4th air corps of the DBA, on the morning of 2.7. Prut (all points 10kmu-to Chernivtsi). The plan of operation: 1. 2 ° CAD at 7.00 2.7.41, with a sudden attack on enemy airfields in the

area of Iasi,

Roman, Bacau, Piatra-Nyamts, suppresses enemy aircraft. In the period 07.40 08.00 in the area of Stefaneshti, Trusheshti, Buimechek, fighters cover the 4th air corps in this area.

2. 21 GARDEN in the period 7.30 8.00 causes fire and suppresses FOR enemy in the area.

3. The 4th air corps of the DBA in the period of 7.40-8.00 echeloned in small groups [hereinafter illegible] to ensure a strike on enemy manpower and tanks in the area of Stefaneshti, Buimechek.

4. 45 SAD in the period 8.30 9.30 delivers a second blow to the enemy in the same area. 5.

Submit a report on the conduct of the first strikes by 12.00.
[230]

The first report arrived even earlier: “Operational

report No. 19 of the headquarters of the Air Force of the 9th Army, Krasnaya Gorka, by 8.00 2.7.41 -

1. In view of the low cloud cover and heavy rains, units of the Air Force of the Army did not conduct combat operations from the morning of—

2.7.41 ... "[231] In the afternoon, the weather apparently improved, but the crushing blow planned in Moscow by the forces of the entire front aviation and long-range bombers was reduced to a series (and a very short one) of "pin pricks". "Operational report No. 22 of the headquarters

of the Air Force of the 9th Army, Krasnaya Gorka, by 23.00 2.7.41

“…2. 2 ° CAD from 13.00 to 18.00 conducted reconnaissance in the area of Stefaneshti, Trusheshti by separate units. 211 BAP consisting of 5 Su-2 bombed enemy troops and special vehicles in the Braneshti region. The crews did not observe the results of the bombing due to cloudiness.

From 18.00 fighter regiments cover the fighting. 3. 21 SAD from 15.00

made patrol flights over their airfields and covered the cities of Odessa, Tiraspol. She did not make combat sorties (so in the text. - M.S.).

4. From 17.30 to 20.00, the 4th air corps bombarded concentrations of troops, artillery and tanks (???) of the enemy in the area of Costesti, Shtefaneshti, Koban (12 km south of Costesti) in echelon as part of nines. 49 DB-3s took part in the raids under the cover of 18 MiG-3s and 18 I-153s (judging by the types of aircraft, these were fighters of the 20th SAD. - M.S.). The DB-3 planes all returned to their airfields ... ”[232] Nothing was said at all about any military operations of the 45th SAD. In total, on the day of July 2,—

the Air Force of the Southern Front carried out 143 sorties, i.e., significantly (three times) less than in the first days

war. However, the next day, July 3, the number of air force sorties of the front dropped to 73. On July 4, 159 sorties were made (114 fighters and 45 bombers). In total, 10 tons of bombs were dropped, i.e., an average of 222 kg per bomber sortie.[233]

The actions of the Air Force of the Southern Front on July 6-8 intensified somewhat. The 21st SAD again delivered several successful strikes against the Romanian troops

in the Falciu area: "... the 5th BAP, consisting of 16 Pe-2s and 7 SBs from Yu.OO until 12.306.7.41, under the cover of 8 MiG-3s, destroyed manpower and firepower enemy in the area of Fundureni, Noui. Bombs dropped on the target in the amount of 9000 kg (i.e., an average of 391 kg per bomber) brought a

great defeat to the enemy ... from 12.00 to 14.00 on 8.7.41, the 67th IAP, consisting of 36 I-16 aircraft, destroyed living enemy force in the Enureni area in the direction of Falchiu and at the crossings. As a result of the attack, the enemy, throwing down his weapons, suffering losses, flees in a panic to the Felchiu area and to his own territory. SB and Pe-2 aircraft of the 5th BAP and I-16 of the 67th IAP were sent to destroy and

intercept the retreating enemy."[234] In total, during the day on July 8, the Air Force of the front made 151 sorties, 76 FAB-100, 42 FAB-50, 54 ZAB-50, 60 AO-25 (total weight - 13,900 kg) were dropped on the enemy. 7 PZL 24 fighters were shot down (declared). Own losses - one I-16 fighter from the 67th IAP, which crashed during takeoff (the pilot died) due to an accidental collision with a car.[235]

In order to appreciate these figures (10 tons of bombs, 9 tons of bombs, 13.9 tons of bombs), let us recall what capabilities the cannon artillery of a single rifle division of the Red Army had. The two artillery regiments of the rifle

division, staffed according to the staffing table in April 1941, included 32 122 mm howitzers and 12 152 mm howitzers (76.2 mm divisional and regimental guns, mortars, anti-aircraft and anti-tank guns will not be taken into account) . Moreover, these howitzers existed not only in the staffing table, but also in reality - by the beginning of the war, 8124 122 mm howitzers and 6548 howitzers were accumulated in the USSR (including the ML-20 howitzer gun)

caliber 152 mm; this amount significantly exceeded the estimated need. [236] The 122-

mm howitzer projectile weighed 22 kg and, in terms of its damaging effect, was quite comparable to the AO-25 aviation fragmentation bomb. The 122-mm howitzer projectile weighed 43 kg[237] and was not much inferior in its damaging effect to the high-explosive bomb FAB-50. The 1941 standard “ammunition consumption on a day of intense battle” (there is one in artillery) established the consumption of 88 152 mm caliber shells and 72 152 mm caliber shells per gun. It is important to note that this standard is “supply”, and not at all technical - within one day, with breaks for cooling the barrel, the howitzer could fire many hundreds of shells. But even if we limit ourselves to the standard consumption of ammunition, one rifle division with its own (excluding reinforcement parts) howitzer artillery could rain down 99 tons of shells on the enemy within 30–40 minutes. 99 tons - compare with the record, "peak" values of the bomb load of the entire aviation of the Southern Front. Let's add to the above and the fact that the howitzer fires when necessary, and the

planes of the 40s bombed when it was possible - during the day, in good sunny weather. One illustrative example of this is the massed (and so beautifully planned!) strike of Soviet aviation that did not take place on the morning of July 2, 1941. All of the above does not mean at all that "aviation was invented in vain." It was not “invented” in vain, but for something other than convulsive “plugging holes” at the forefront of combined arms combat ...

Meanwhile, the situation on earth worsened every day. By July 10–12, German-Romanian troops occupied the cities of Chernivtsi and Balti and reached the Dniester in the Khotyn-Rybnitsa sector. In the center of the operational construction of the Southern Front, the Romanian troops slowly advanced towards Chisinau and occupied it on July 16. The next day, July 17, 1941, the general withdrawal of the troops of the Southern Front across the Dniester began, while in the Kamenetz-Podolsky, Rybnitsa sector, the defense line of the Soviet troops was broken through, and the enemy developed an offensive against Uman, Pervomaisk.

Commenting on these events, Russian military historians - the authors of the collective monograph "1941 - Lessons and Conclusions" (published in 1992) - write: "Instead of stubbornly holding

occupied line, a systematic withdrawal of troops was carried out, although the enemy did not have the necessary superiority in forces and means here, and in tanks and aircraft the advantage was on the side of the Southern Front ... One of the reasons for the withdrawal of troops to the Dniester line was an incorrect assessment of the opposing enemy forces. Thus, on July 5, the Military Council of the Southern Front reported to Headquarters that 53 enemy divisions were operating in its zone. This exceeded the real number by more than twice ... "[238]

On the evening of July 9, the 20th SAD began to relocate across the Dniester. Somewhat later, in the second half of July, units of the 21st SAD deployed in the south of Bessarabia also moved across the Dniester. The “most favored nation regime” in the history of military operations of the aviation of the Southern Front has ended. The time of retreat, frequent redeployment, rapidly increasing losses of materiel began. Then everything will be "like everyone else" ...

2.4. Results and discussion

“I warn unit commanders not to be complacent about good results in destroying enemy aircraft… The patrol service and the readiness of duty units must be organized in such a way that not a single enemy aircraft operating over our territory leaves with impunity…”[239] And a high assessment of the results achieved, —

and so the maximalist formulated task (“not a single enemy aircraft should escape unpunished”) sounds like a sharp dissonance against the background of common ideas

about the “Soviet Air Force destroyed at dawn on June 22” and “the absolute air supremacy of German aviation”. However, the commander of the 21st SAD, who issued the order[240] beginning with such words, was right in his own way. The division entrusted to him (as well as the aviation of the Southern Front as a whole) retained most of the personnel and military equipment, daily lifted tens and hundreds of aircraft into the air, and inflicted quite tangible losses on the enemy both in the air and on the ground. Why are you more? We do not know exactly what Colonel Galunov knew about the situation in other sectors of the Soviet German front, but even from the newspaper reports of the Sovinformburo, which muffledly reported on “battles in the Minsk and Bobruisk directions”, he could not help but understand that the “neighbors” had a monstrous rout. In such a situation, he could only warn his subordinates about the inadmissibility of "dizziness from success" ...

And from the standpoint of today's knowledge, we can state that the combat operations of the Air Force of the Southern Front were the most successful. There is no doubt about the main reasons for this success. First and most importantly, in June 1941, the aviation of the Southern Front did not relocate anywhere and, accordingly, did not leave mountains of military and auxiliary equipment at abandoned airfields, did not lose contact with the higher command, ground forces, supply and maintenance bases (the episode mentioned above with the lack of gasoline in the 299th ShAP is the only one in its

kind - at least, there are no other references to the "gasoline problem" in the documents of the Air Force formations of the Southern Front).

Secondly, the enemy (German-Romanian aviation) was significantly outnumbered. The most accurate criterion for assessing "numbers" should not even be considered the number of aircraft and crews, but the number of actual sorties. So, according to the reports of the Soviet VNOS posts in July 41 (data for June are not available in the cited document), the enemy carried out 1615 sorties, and the Air Force of the Southern Front - 6998. Four times more. In August - 1937 and 7562 respectively.[241] All these figures still do not take into account the presence on the same theater of operations of the Air Force of the Black Sea Fleet and long-range bomber aviation of the Civil Code of Spacecraft operating to a large extent for the same purposes. Thirdly, the aviation of the Southern Front was at least not inferior to the enemy in combat performance ch
aircraft.

Now we have to try to evaluate, "measure" these most successful actions of one of the large groupings of the Soviet Air Force in quantitative parameters that can be measured and objectively assessed. Let's start with the simplest. From the

intensity (not from efficiency, not from effectiveness, namely, from the intensity that can be easily quantified) of combat use. As noted above, in June 41st (i.e., in 9 days - from the 22nd to the 30th) the Air Force of the Southern Front completed 2336 sorties. An average of 260 flights per day. In July, 6998 sorties were made - an average of 226 per day. The maximum, "peak" level is observed in the first three days of the war - up to 430/450 sorties per day. Is it a lot? At the beginning of June 1941, the Air Force of the Odessa District had about

750-800 [242] combat aircraft in good condition. In other words, the tension level of “one sortie per serviceable aircraft per day” was not reached even in the early days of the war, when there was still plenty of gasoline and losses were still very small. And this is in a dry and warm June, with a daylight hours of more than 18 hours a day. By June 30, the Air Force of the Southern Front had 675 combat aircraft, of which 511 were in good condition.[243] Comparing the arithmetic mean for the first 9 days

war, the number of combat-ready aircraft with an average number of sorties, we get a discouraging figure of 1 sortie in 2.4 days.

“What then to do with countless stories and memoirs in which our pilots, returning from a combat mission, hastily, without leaving the plane, chew a sandwich with tea - and again into battle, and so on 5-6 times a day”, a surprised (or indignant) reader must ask me. I answer - everything in these memoirs is without deceit (well, with some exaggeration, but nothing more). The average indicator for all the air forces of the front is in many ways similar to the famous "average temperature in the hospital." This figure - one sortie in two and a half days - was formed from the fact that some regiments (primarily this applies to the 45th SAD) were inactive from day to day, while the fighters of the 67th, 4th, 55th IAP in other days performed 2-3 flights per day. But even these “two sorties for one serviceable aircraft” consisted of the fact that someone made one sortie, and the command instructed both the 4th and 5th

departure...

On the whole, it is hard not to notice that the distribution of combat work between the units of the Air Force of the Southern Front took place according to the well-known formula: "Whoever is lucky, they will load him." This is the formula of a bureaucratic system with a very low level of management.

Now let's "tweak up the sharpness" and look at the figures characterizing the work of the main, i.e., bomber aviation of the Air Force of the Southern Front. The peak level of combat tension is the day of June 26, when the bombers completed 151 sorties. A little less than one flight. And this is the June record. But even on this day, the total weight of the bombs dropped was only 60 tons, which gives an average of 397 kg per aircraft. In fact - four FAB-100. A very strange figure, considering that on this day the city of Iasi was bombed by the Security Council. "Drive" a twin-engine bomber for the sake of delivering such a meager bomb load? For comparison, we note that on the first raid on the first day of the war, the Heinkels Non-111 of the Romanian Air Force were loaded as follows: 4 250 + 16-50, a total of 20 bombs with a total weight of 1800 kg per

weight is one [244] Even taking into account the fact that the maximum takeoff aircraft. "Heinkel" was almost twice the corresponding indicator for the Security Council (12,500 and 7750 kg), the difference in the approach to the combat use of aviation is impressive ...

In just nine days of June, the Air Force of the Southern Front dropped 336 tons of bombs on the enemy.[245] At the maximum (which was quite possible in a situation where the main object of strikes were crossings on the Prut River, located no further than hundreds of kilometers from Soviet airfields) bomb load of the available aircraft (20 SB, 30 Pe-2, 16 Su-2), this load could be lifted in one flight. If we get closer to Soviet reality, i.e., take half of the bombers as "temporarily out of order" and consider the average bomb load (800 kg for the SB, 600 kg for the Pe-2,400 kg for the Su-2), then in this case 336 tons could be lifted in 3.6 departures, that is, in just 2–3 long June days.

The practice of combat use of the 45th BAP from the 20th SAD can be considered quite characteristic of the Air Force of the Southern Front. At the beginning of June, the regiment had 54 SBs (of which only 4 were out of order) and 5 new Pe-2s (all were in order). Total - 55 bombers ready for battle. Compiled at the headquarters of the division after the start of hostilities, the summary “Losses of materiel and personnel from 22.6. on October 25" also confirms the presence of 49 SB bombers in the regiment as of June 22, 1941 (though without indicating their combat readiness and without mentioning the presence of Pe-2).[246] But in the report of the headquarters of the 45th BAP on the combat work of the regiment (the so-called “form 100”), as of June 22, only 45 SB and Pe-2 aircraft are listed, of which 30 are

On the first day of the war, as noted above, the 45th BAP "misses a blow" from enemy aircraft and irretrievably loses 10 aircraft on the ground. After that, until the end of June, the regiment invariably has 35 aircraft (that is, there are no new irretrievable losses at all), and the number of combat-ready ones fluctuates in the range of 18–24. (204) With this number of aircraft, the regiment performs 117 sorties in 9 days of June, i.e. an average of 13 per day. In general, during the two months of the war (from June 22 to July 21), the 45th BAP carried out 479 sorties and dropped 187 tons of bombs on the enemy.[247] An average of 8 sorties per day with a load of 390 kg of bombs per aircraft. The regiment worked at an intensity quite accessible (in the summer) to a squadron of incomplete strength.

The sudden, "explosive" increase in the number of out-of-service aircraft that took place in the 45th BAP on the day the war began deserves close attention. For lack of a commonly accepted term, I propose to call this process "emergency reset". A very large-scale "emergency

reset” occurs in the 55th IAP of the same 20th SAD. At the beginning of June, the regiment had 62 new MiG-3s (all in good order) and 54 fighters of the "old types" (I-16 and I-153), of which 39 were operational. Kutru on June 22 will be joined by 57 MiG-3s, 12 I-16s, 40 I-153s. But, according to the report on the combat work of the regiment (“Form 100”), on June 22 in the 55th IAP there were only 74 serviceable fighters, and on June 23 - 54. After this “reset”, until the beginning of July, the number of serviceable aircraft

varies in the range 51–47.[248] Not without an “emergency drop” in the 5th BAP from the 21st SAD (and this, mind you, is one of the best on the Southern Front, which fought very actively and even dropped 16 bombs on the Ploiesti regiment). At the beginning of June, the regiment had 35 SBs (of which 13 were out of order) and 25 new Pe-2s (of which 2 were out of order). Total - 60 bombers, including 45 combat-ready (22 SB and 23 Pe-2). There are 59 crews in the regiment, trained for “combat operations during the day in simple weather conditions,” that is, there are even more crews than serviceable aircraft. (145) However, already in the evening (at 22.00) of the first day of the war, the operational report of the regiment headquarters reports: “The regiment, consisting of 16 Pe-2 crews, 16 SB crews and 2 crews in reserve for reconnaissance, is ready for combat operations ...” (133) If believe the operational report of the headquarters of the 21st SAD (dated 21.00 22.6.41), then there are even fewer serviceable aircraft: "The regiment, consisting of 12 PE-2 and 15 SB crews, is dispersed in readiness to perform combat missions." At the same time, both the regiment's operations report and the division's operations report unanimously state the absence of losses (and even the absence of enemy anti-aircraft or fighter

opposition during the evening raid of the 5th BAP bombers on Kartal and Galati). The vigilant reader may have already thought that the command of the regiment and division thus treacherously hid the planes destroyed "at dawn on June 22 by a sudden attack on airfields" - in the interests of the historian Solonin. This assumption is erroneous - not only according to the reports of the Soviet air units, but also according to the documents of the Romanian side, not a single bombing raid was carried out on the Akkerman and Kulevcha airfields (the area where the 5th BAP is based) (not counting the reconnaissance Blenheim flying in that area and soon shot down "). And even more so, the 69th IAP was not subjected to any ene

deployed at the airfields of Odessa, but the "emergency drop" in this regiment is obvious: before the start of the war, the regiment had 50 serviceable I-16s (not counting 20 faulty and 5 new MiG-3s that had not yet been mastered by the flight crew) and 76 pilots, and by 1200 June 27, only 39 I-16s were on

alert .[249] Where are the other 11 serviceable donkeys? In the first days of the war, the regiment patrolled the sky over Odessa, without encounters with an air enemy. In the summary "On the losses of personnel and materiel of the 21st SAD for the period from June 22 to July 2, 1941" in the line of the 69th IAP we read: “shot down in an air battle” - no, “shot down FOR the enemy” - no, “did not return after the battle” - no, “destroyed on the ground” - no, “damaged on the ground, but can be restored on their own" - no. Four planes made an emergency landing on their

territory.[250] The overall scale of the "emergency drop" in the units of the Air Force of the Southern Front can be estimated in the following figures. As noted above, from the beginning of the month until June 30, the total (including non-serviceable) number of combat aircraft decreased from 962/950 to 675. The number of serviceable aircraft decreased from 798/767 to 511. (145) In both cases, the arithmetic difference between these numbers is 280–260. But in the final annual report of the headquarters of the Air Force of the Southern Front, the losses of June (including non-combat ones!) Are determined by the number 175.[251] About 100 aircraft disappeared to nowhere...

It is unlikely that anyone will be able to give an accurate and reasoned answer to the question of where these planes "flew"? Each reader can build his own hypotheses, guided by personal experience of life in the USSR and service in the Soviet Army. My hypothesis boils down to the fact that the registrations were made twice: before the war, to improve reporting, the number of serviceable aircraft was overestimated; after the outbreak of hostilities, a large number of real-life, but requiring repairs (including the most minimal) aircraft, were either “quickly” written off for scrap, or openly recognized as faulty. Returning to the statistics of the 5th BAP,

we can state that after a one-time "emergency reset" all the figures came into relative agreement. According to the above summary of

losses, from June 22 to July 2, 3 SB and 6 Pe-2s were irretrievably lost, while as of June 27, 14 SBs and 9 Pe-2s were listed as combat-ready. Something like this should be from the point of view of arithmetic (16 - 3 \u003d 13, 16 - 6 \u003d 10). The structure of aircraft losses in the regiment also deserves attention. For 10 days of hostilities

The 5th BAP did not lose a single aircraft shot down by enemy fighters or anti-aircraft guns! In the column "did not return after the battle" there is also a dash. Where and under what circumstances were 9 bombers irretrievably lost (and another 14 aircraft are listed as damaged)? The regiment suffered the heaviest losses during the morning Heinkel raid

on 24 June. One SB was irretrievably shot down by our anti-aircraft artillery, one Pe-2 was destroyed in a crash, and another one made an emergency landing "due to equipment malfunction." Two Pe-2s made an emergency landing after the battle - and only this temporary (not irretrievable!) loss of two aircraft can theoretically be attributed to the influence of fighters or the enemy's FOR.

As expected, only two fighter regiments of the division suffered noticeable losses in air battles: the 67th IAP, which, being at the forward airfields in Bolgrad and Bolgariyka, bore the brunt of the fight against enemy aircraft, and the 146th IAP, which covered in the air bombers of the 5th BAP and stormed the crossings at Falchiu. The 67th IAP irretrievably lost 5 I-16s in air battles. The losses of the 146th IAP turned out to be much higher: 8 MiG-3s and 1 I-16 were shot down, 1 MiG-3 "did not return after the battle", 4 MiG-3s and 4 I-16s made forced landings after the battle. It is hardly possible to make global generalizations based on the results of the combat operations of two regiments over Yu days, but at least these figures force us to think about the real advantages and disadvantages of the “newest MiGs” and “hopelessly outdated donkeys”.

In general, the irretrievable losses of the 21st SAD for the first 10 days of the war were as follows: - shot down

in aerial combat - 14; - shot down FOR

the enemy - 0; - "did not return after

the battle" - 1; - destroyed at airfields -11;

- broken in disasters - 3; -
shot down by its FOR

- 1. In total, the division irrevocably lost 30 aircraft - less than 8% of the original (before the "emergency drop") strength. The number of aircraft temporarily disabled (accidents, forced landings, damaged during enemy raids on airfields) is twice as large - 60. Personnel losses (the compilers of the report do not single out the losses of flight crews) are also relatively small: 19 killed and missing, 30 wounded . In general, the division, no doubt, retained its combat effectiveness, most of the personnel and aircraft. During the same period (from June 22 to July 2), the pilots of the 21st SAD reported 63 enemy aircraft shot down in air battles and 4 destroyed on the ground. Of the 63 aircraft shot down in the air, 26 were identified as single-seat fighters (Bf-109, He-112, PZL-24).[252] The losses

of fighters of the 20th SAD (4th and 55th IAP) are known from the summary for the period from June 22 to August 20. (211) Such a rather long time interval led to a significant proportion of non-combat ("technical") losses and the emergence of such a category as "burnt during evacuation", unthinkable for the Air Force of the Southern Front in the first weeks of the war. So,

in two months lost: - shot down
in aerial combat - 31; - shot
down FOR the enemy - 14; - "did
not return after the battle" - 31; -
destroyed at airfields - 12; - broken in disasters,
sent for repair - 93; - burned

during evacuation - 28. Total irretrievably lost 209 aircraft. The losses are large (76% of the original number), but it is important to note that only 76 aircraft were shot down in the air (and this number is somewhat overestimated, because among the “those who did not return from a combat mission”, by no means all were shot down by enemy fighters or anti-aircraft guns) . During this period, 4762 sorties were completed, i.e., one loss in the air falls on 63 sorties - a very high indicator of combat survivability. Irretrievable losses of pilots: 20 died in air combat, 19 did not return from a combat mission. 75 enemy planes were claimed to have been shot down.

It is not possible to establish the real number of German and Romanian aircraft shot down by fighters of the 20th SAD. Only one thing is clear - if the declared number of victories is equal to the actual number of own losses, then this clearly indicates that the enemy's losses were many times less. The dispute is possible only about exactly how many times (by 2, 3, 5) the losses of the enemy were less. The high proportion of non-combat losses in the fighter regiments of the 20th SAD should not surprise us. Firstly, this is exactly how it should

be in fighter units: a fighter is a hunter, not a game; in the ultimate ideal, the loss of aircraft of a fighter regiment should consist only of equipment failures and write-offs at the end of their service life. Secondly (and in this case, this was the most important), the 4th IAP and the 55th IAP, two months before the start of the war, were re-equipped with the "newest", but, alas, structurally "raw" and difficult to pilot the MiG -3. Here is what the division commander writes about this: “1. The main and main cause of accidents in parts of the division in the first months of the war was, first of all, of course, the fact that the flight personnel of the fighter regiments entered combat operations without completing retraining on the new materiel - MiG-3 aircraft, and therefore most of the pilots

performed combat missions from operational field sites without practicing piloting techniques in the zone, and especially without practicing piloting the MiG-3 aircraft at low altitudes.

2. In addition, in the early days of hostilities, the flight crew left the battles one at a time and returned to their airfield alone, lost orientation along the way, as a result of which they wandered, landed in an emergency landing and hit the plane. 3. A number of breakdowns and accidents occurred due to

the fault of the flight crew, who violated the organization of the landing and take-off procedures due to unnecessary haste and haste. 4. There have been [cases] of accidents and breakdowns of aircraft due to

indiscipline and negligence in operation

material part on the part of the flight and technical personnel ... "[253] In general,

judging by the annual report of the headquarters of the Air Force of the Southern Front, the structure of losses was as follows:

	Июнь	**Июль**	Август	Всего
Сбито в воздушном бою	54	40	25	119
Сбито за противника	4	8	0	12
«Не вернулись после боя»	20	63	42	125
Уничтожено на аэродромах	19	20	0	39
Небоевые потери	78	71	35	184
Всего	175	202	102	479

During the specified period (June, July, August) 16,896 sorties were performed. For one combat loss, there are 52 sorties - for the Soviet Air Force this is an absolute record (in the first year of the war in the Soviet Air Force, on average, one combat loss accounted for 28 sorties of fighters, 13 sorties of attack aircraft and 14 sorties of bombers).[254] To some extent, this "record" is due to a clear underestimation of losses - just look at the very dubious zero in the column for losses from anti-aircraft fire in August; it is not difficult to verify that the total losses from the fire of the FOR the compilers of the report turned out to be less than in the 20th SAD alone. We have already named the main reasons explaining such a statistically high survivability above - the extremely small number of German fighters on the Southern Front sector and the large number of Soviet fighter sorties spent on patrolling the clear sky. The

compilers of the report claim that up to September 1, 1941, 457 enemy aircraft were shot down (164 in June, 154 in July, 139 in September).[255] One gets the impression that they greatly inflated these figures even in comparison with the reports of their subordinates (see above). Out of respect for the honored people, participants in the Great Patriotic War, we will keep silent about the declared number of destroyed German tanks ... Returning to the aircraft, we note that the real irretrievable losses (damage from 60 to 100% "from the enemy's impact and for unknown reasons") aircraft of the 4th Luftwaffe air corps were: 18 aircraft in June, 26 in July, 21 in August, for a total of 65.[256] Here, however, one should not forget that the Romanian Air Force also suffered comparable losses; in addition, from the end of July, the troops of the right flank of the Southwestern and Southern fronts fought in almost the sa

war, the loss of the 4th and 5th air corps of the Luftwaffe, the victory of Soviet pilots of the Southwestern and Southern fronts is hardly possible.

In any case, one thing is clear - the combat losses of the Air Force of the Southern Front (the former Odessa Military District) turned out to be only several times (but by no means an order of magnitude!) Larger than the losses of the enemy. The result of the first weeks and months of the war could hardly have been better, taking into account the “sparing regimen” of flight, rifle and tactical training of Soviet Air Force crews, which was discussed in Chapter 1. Soviet

pilots had to learn to fly, shoot and fight in battle. So they learned - as best they could ..

Chapter 3
IN THE SKY OF UKRAINE

If the combat operations of the Air Force of the Odessa Military District (Southern Front) in the first days of the war took place in conditions of a stable front of ground troops, then the situation in Western Ukraine was fundamentally different. The heaviest defeats of the troops of the Southwestern Front, their hasty and disorderly retreat became one of the most important factors that determined the result of the battle in the air. This circumstance makes it necessary to precede the analysis of the documents of the headquarters of the air forces of the front with a brief historical note on the events that took place on the ground.

3.1. Inevitable unexpected defeat

As part of the Kyiv Special Military District, the most powerful, most numerous and best armed group of Soviet troops was concentrated. Already in October 1940 ("Memorandum of the People's Commissar of Defense of the USSR and the Chief of the General Staff of the Red Army in the Central Committee of the All-Union Communist Party of Bolsheviks to I.V. Stalin and V.M. Molotov No. 103313"), the South-Western strategic direction was finally recognized as the main one (" In the West, to have the main grouping as part of the Southwestern Front in order to cut off Germany from the Balkan countries, deprive her of the most important economic bases and decisively influence The Balkan countries in matters of their participation in the war ... Consider the plan of strategic deployment in the West with the main strike by the forces of the Southwestern Front ... "). This idea - delivering the main blow from the territory of the Lvov ledge in the direction of Krakow, Katowice - remained unchanged in all variants of the plan for the strategic deployment of the Red Army known to this day. On the contrary, the command of the enemy (the

Wehrmacht), not without long hesitation and discussions when discussing the “Pripyat problem”, decided to deliver the main blow north of the swamps of Polesie, in Belarus (i.e., in the zone of the Western OBO of the Red Army). To do this, more than half of the total number of tank and motorized formations of the Wehrmacht deployed on the Eastern Front was included in the Army Group Center. In the same place, in the offensive zone of the GA "Center", the main aviation forces were also concentrated (including all formations armed with Ju 87 dive bombers and Me-110 multi-role fighter-bombers). For actions on the flanks (in the Baltics and Ukraine), much weaker groupings were created. In particular, in the vast space from the Pripyat River to the Black Sea coast,

the Germans had only one (1st) tank group, and the divisions that were part of it were the most

small in number of tanks - only 728 units in five tank divisions (less than the regular strength of one Soviet mechanized corps). Thus, the front of the Kiev OVO turned out to be the only section of the common front of the Soviet-German war, where the number of Soviet "tanks of new types" (T-34 and KV) turned out to be greater than the total number of all (including machine-gun tankettes) enemy tanks, and the number of "fighters new types "(MiG-3 and Yak-1) - twice as many as the number of all Luftwaffe fighters. The absence of the second tank group in the German GA "South" made it difficult (and ultimately impossible) to conduct a major encirclement operation, similar to the one that was carried out in June 41st in Belarus. From the point of view of that military science, which is limited to the

recalculation of tanks, guns and aircraft, the troops of the Kyiv OVO were "doomed to success." However, everything turned out quite differently. The reasons for the defeat common to the entire Red Army of the 1941 model - the low qualifications of the personnel (at all levels, from sergeant to marshal), aggravated by even lower motivation - were supplemented by very significant "local specifics". The war began on the so-called. “territories of Western Ukraine liberated from pan yoke”. The orders that the “liberators” from the NKVD introduced there caused the local population, first, extreme amazement, then mortal horror, then a desire for revenge. The mass executions of prisoners and detainees carried out in the prisons of Western Ukraine in the first days of the war only added fuel to the bloody turmoil that broke out.

Galicia (the historical name of the region of the eastern foothills of the Carpathians with the cities of Lviv, Sambir, Stryi, Stanislav (now Ivano-Frankivsk), Tarnopol, Brody) “flared up” especially strongly, which for the previous century and a half was part of the Habsburg empire and where the power of people, speaking German, was perceived as a familiar and understandable order of life. Russia was previously treated without much sympathy there (during the First World War, the “legion of Sich archers” formed from the Galicians became one of the most combat-ready units of the Austrian army), and over a year and a half of Soviet occupation, these feelings intensified many times over. At the end of June 41, an armed rebellion

covered many cities and towns of Galicia, including primarily the capital of the region - the city of Lviv, where for several days there were real battles between the armed detachments of the nationalists and the retreating units of the Red Army. The operational plan of

the command of the German GA "South" was simple, unpretentious and quite easily predictable. The 1st tank group of the Wehrmacht, the only one in this theater of operations, having concentrated a few days before the start of hostilities in the area of Lublin, Zamosc, struck under the northern base of the so-called. Lviv ledge and, breaking through the defenses of the Soviet troops at the junction of the 5th and 6th armies, developed an offensive in the direction of Lutsk, Dubno, Shepetovka. At the tip of the ledge, the German infantry was supposed to tie down the main forces of the 6th and 26th armies, preventing them from being relocated to the area of \u200b\u200bbreakthrough of the "tank wedge". On the southern flank of the district, in the Carpathians,

there were no significant German forces at all. This plan was a complete success. The 12th Army stood idle in the Stanislav-Chernovtsy zone until the moment when the threat of encirclement loomed over it.

The 6th and 26th armies not only did not provide assistance to the "right neighbor", but also could not hold back the advance of the German infantry, which already on the morning of June 30, practically without a fight, occupied Lvov. In the offensive zone of the 1st TGr of the Wehrmacht, the demoralized units of the Red Army rolled back to the east. Main strike force Yu.-Z. front - three powerful mechanized corps (4, 8 and 15), each of which surpassed the German tank group in the number of tanks (not to mention the quality), for several days chaotically rushed about in the "triangle" of Lvov, Tarnopol, Dubno. During these strange "marches" more than half of the tanks were lost even before the first meeting with the enemy.

Planned by the Yu-3 command. front, a crushing counterattack by five (4, 8, 15, 9, 19th) mechanized corps resulted in a series of scattered skirmishes in the Lutsk, Dubno, Brody regions. In the meantime (by June 27-28), the German infantry, advancing at a pace of 20-25 km a day, entered the Dubno region and surrounded (an almost unique case in the history of World War II) the remnants of Soviet tank divisions. The defeat (more precisely, the disappearance) of the mechanized corps finally broke the will of the front command. thirty

On June, the front headquarters was relocated from Tarnopol to Proskurov (now Khmelnitsky), on July 3 - to Zhitomir, on July 6 - to Brovary, that is, to the eastern bank of the Dnieper. Further "advancement" was stopped only by a threatening

roar from Moscow: "Reliable information has been received that all of you, from the commander of the Southwestern Front to the members of the Military Council, are in a panic and intend to withdraw troops to the left (i.e., eastern. - M .S.) bank of the Dnieper. I warn you that if you take at least one step towards the withdrawal of troops to the left bank of the Dnieper, if you do not defend the fortified areas on the right bank of the Dnieper to the last opportunity, then you will all suffer a cruel punishment as cowards and

deserters. Chairman of the GKO I. Stalin."[257] A tough order from Stalin, as well as several hundred bunkers of the "Stalin line" (which, contrary to the well-known legend, no one was going to blow up) as part of the Novograd-Volynsky and Shepetovsky fortified areas, the troops of the second strategic echelon, who were at that moment in the Shepetovka area, as well as the 16th mechanized corps, which ended up in the Berdichev area due to a coincidence (at the beginning of the war, the corps was transferred from the South-Western to the Southern Front, and then transported by rail from Moldova to Belarus) allowed the offensive to be delayed for a week in the Zhitomir

This success of Yu-3 troops. front was, unfortunately, the only one. In the 20th of July, the German tank divisions continued their offensive, but not to the east, towards Kyiv (as the Soviet command expected), but to the south, to Uman and Pervomaisk. At the end of July, the troops of the 6th and 12th armies retreating from the foothills of the Carpathians were surrounded there. In the infamous Uman "cauldron", the remnants of these two armies were defeated within one week. The Germans took more than 100,000 prisoners, including two army commanders and many other commanders of a very high rank21 . In early August, the units and formations of the Southwestern Front that survived the defeat retreated beyond the Dnieper. Thus ended the battle for the

Red Army in Right-Bank Ukraine. The planned strength of the Air Force of the Southwestern Front corresponded to the scale of the strategic task assigned to the front. In addition to a huge air force

Kiev OVO (11 air divisions, including the 36th IAD of Kiev Air Defense and the 18th long-range bomber aviation division, directly subordinate to the district/ front air force command) from the internal military districts from the first to the fourth day of mobilization (from M-1 to M-4) it was planned to transfer another 10 air divisions. In addition, by the end of the day, M-3 in the Yu-3 band. front were supposed to be DBA (four concentrated long-range bomber air corps and In total - 6820 aircraft in 107 air regiments. As is two fighter divisions). known, in Berlin they were able to get ahead of Moscow, and hostilities began at a time when the strategic deployment of

the Red Army was still far from complete. The war, which began "suddenly", even more so broke all pre-war calculations, in particular, the redeployment of ten air divisions to the territory of the Kyiv district never took place. Many of the air regiments of the Kyiv OVO were not staffed according to the full staffing table. As a result, instead of nearly 7,000 aircraft, the command of the Air Force of the Southwestern Front ended up with "only" 2,069 combat aircraft and 1,814 crews in 11 air divisions.[258] If we consider it extremely harsh, that is, exclude reconnaissance air regiments, attack air regiments from the general list (they were armed with obsolete I-15bis biplanes at the beginning of the war), the so-called. "forming regiments" that received one or two dozen combat aircraft, as well

as to exclude from the calculation heavy bomber regiments equipped with obsolete four-engine giants TB-3, then 1174 fighter aircraft remain in the Air Force of the Kiev Regional Military District (including 222 "new types") consisting of 20 fighter aviation regiments and 586 bombers (including 68 of the latest Pe-2) as part of 13 bomber regiments. A total of 1,760 aircraft and more than 1,600 crews.[259] Another 6 bomber regiments, armed with 345 DB-Z / DB-Zf, were part of the 4th air corps of the DBA deployed in Ukraine (at the air hubs of Zaporozhye and Melitopol). As expected, the 4th DBAK, concentrated in the main strike zone, was the most powerful in the Soviet

long-range bomber aviation. Theoretically, the 2nd air corps of the DBA (headquarters in Kursk) could also be involved in hostilities in the skies of Ukraine; these are 6 more air regiments, 252 bombers.

The enemy, as part of the 5th Aviation Corps, operating jointly with the Army Group "South" over Ukraine, had 8 bomber and 3 fighter groups . The Junkers of the KG-54 bomber squadronwere based in the Lublin area (Swidnik airfield), the Heinkels of the KG-55 squadron were based in the Zamostye area (Labunie and Klemensow airfields), and the Junkers of the KG squadron were based in the Krosno area (Krosno and Lezany airfields). -51. The only JG-3 fighter squadron on the entire theater was deployed in the strip east of Zamostye (Dub, Hostynne airfields) and Krosno (Moderowka airfield). It is worth noting that even bomber-based airfields were no further than 70–80 km from the border, i.e., theoretically, they could be attacked by any Soviet fighters and attack aircraft. In total (including temporarily out of order aircraft), the 5th Luftwaffe Air Corps was armed with 247

"horizontal" bombers (163 Ju-88 and 84 Non-111) and 109 Bf-109 fighters of the latest modification F by the start of hostilities. Not a single dive bomber Ju -87 (this flying symbol of the “blitzkrieg”, beloved by all documentary filmmakers), was not at all in the sky over the Southwestern Front. From this, in particular, it follows that the capabilities of the 5th Luftwaffe Air Corps for targeted bombing of point targets (which are aircraft camouflaged at the edge of the airfield) were very limited. In terms of the total number of aircraft and crews (including the 4th DBAK), the Soviet Air Force had a sixfold superiority in this theater. In terms of fighters, the superiority was ninefold. To gain air superiority, each German

squadron from the only JG-3 fighter squadron in the sky of Ukraine had to destroy one Soviet air division ...

Mathematical modeling of combat operations is an extremely complex matter; nevertheless, let us try in the most simplified form to “calculate” the air struggle in the sky of Ukraine in June 1941 (as it will become clear from what follows, we will no longer have to count July).

Let's assume that each of 100 German fighter pilots performs three sorties every day and spends only 15 sorties per shot down Soviet fighter (very high, record figures). Further, suppose that 900 "Stalin's falcons" are fighting three times less intensively (one sortie per day) and four times less effective - they spend 60 sorties on one downed enemy fighter (an indicator roughly corresponding to the very low performance of the Southern Front Air Force fighters / Odessa Military District). To simplify the calculation, we will assume that the fighters are fighting each other, without being distracted by the much more important tactical fight against enemy bombers.

Under these initial conditions (that is, practically “playing giveaway”, because why on earth do Soviet pilots, protecting their native sky, fly three times less often than Goering’s kites?), we get the following result: by the end of the seventh day of fighting, German fighters are completely exterminated; the Soviet grouping lost 79 aircraft, i.e., less than 9% of the original strength. Anyone who is not too lazy to work for five minutes with a calculator will see the secret of such a swift “defeat of the Luftwaffe”: even losing from 20 to 3 aircraft a day, a huge group of Soviet fighters almost does not decrease and with constant constancy shoots down 15-14 aircraft enemy per day. For a week the enemy
ends...

In reality, the planes (albeit Soviet, not German) ended (almost ended) in 20 days. On July 11, 1941, signed by Kirponos (commander of the Yu-3. Front), Purkaev (Chief of Staff) and Khrushchev (Front’s PMC), a memorandum “The need for replenishment of Air Force aircraft of the South Western Front” was drawn up. By this time, 170 fighters and 41 bombers (as well as 33 attack aircraft and 7 reconnaissance aircraft) remained from the entire huge aviation group [360] . The only "bright spot" in this gloomy picture of complete defeat could be considered the relatively low loss of aircrews. In an explanatory note to "Needs" Purkaev writes that, apart from the warring crews, "664 crews were sent to Moscow to

retraining and receiving new materiel and another 369 crews that do not [261] have materiel are in parts of the front.

In the following paragraphs, we will try to reconstruct the events of this "strange war", during which 4/5 of the combat aircraft were lost and 3/4 of the aircrew were saved.

More than "try", we will not succeed. And here's why: “The

information sent about the combat composition is not true. The commander of the Air Force KA warns of negligence. Look at the combat composition sent by you as of 10.7 and as of 12.7. The difference is incredible. What's the matter. Unclear. We cannot draw conclusions and plan. The chief of staff of the Air Force of the spacecraft ordered by the morning of 15.7 to provide accurate information about the combat composition ... ”[262] It is impossible to understand who

writes this to whom: there is no date or number, only a telegraph tape faded and crumbling in places. Three pages later in the File, another telegram: “Very little is required of you: when sending information

about the combat composition today, you need to look at the previous ones. If there is a difference in one direction or another, explain in two or three words what caused this difference. I do not want to report to you about the significance of the accuracy of information. You understand perfectly well the significance of this question, that we daily report to their Master. We need to stop this carousel. Is it really not able to cope?”[263] It is also worth noting that the effectiveness of the actions of the Air Force of the

Southwestern Front (and the safety and reliability of operational documents) was affected by the frequent change of commander. For 10 days, the aviation of the front was consistently led by three people - a unique case even for the Soviet Armed Forces, where in the summer of the 41st personnel leapfrog became a deplorable norm.

On the eve of the war, the aviation of the Kyiv OVO was commanded by E.S. Ptukhin (born 1902, member of the All-Union Communist Party of Bolsheviks since 1918, lieutenant general of aviation, participant in the war in Spain, commander of the Air Force of the North-Western Front during the Finnish war, Hero of the Soviet Union, awarded two Orders of Lenin, Order of the Red Banner and the Order of the Red Star). On June 24, 1941, "by decision of the Military Council of the Southwestern Front," Colonel Slyusarev took comman

Prior to this appointment, S.V. Slyusarev (born 1906, participant in the war in China, deputy commander of the Air Force of the 8th Army during the Finnish war, Hero of the Soviet Union, after the war - lieutenant general, commander of the air defense army) acted as Ptukhin's deputy for combat training; perhaps this explains the fact that the colonel was put in command of the aviation of the front, in which the commanders of many air divisions were generals. Colonel Slyusarev commanded the generals for a short time, and already on July 1 he was replaced by Lieutenant General F.A., who arrived from Moscow. Astakhov (formerly Deputy Head of the Main Directorate of the Air Force of the Spacecraft). The seemingly

logical version that the defeat of the front's aviation was the cause, and the resignation, subsequent arrest and execution of Ptukhin was the result, contradicts the known (alas, very few) facts. There are good reasons to assume that the bloody flywheel of the "Aviators' Case" captured the commander of the Kyiv Regional Air Force even before June 22. So, Air Marshal A.A. Novikov (at the time of the beginning of the war - commander of the Air Force of the Leningrad Military District, then - commander of the Air Force of the Spacecraft) writes in his memoirs:

"... On June 20, unexpectedly, on the orders of People's Commissar of Defense Marshal of the Soviet Union S.K. Timoshenko, I was summoned to Moscow. On Saturday I returned to Leningrad and immediately telephoned the people's commissariat. General Zlobin, who was with the people's commissar for special assignments, said that I was being transferred to Kiev. Naturally, I immediately thought of General E. S. Ptukhin and inquired where he was being transferred. My question remained unanswered. Zlobin somehow hesitated and after a short pause replied that the issue of

Ptukhin had not yet been resolved ... "[265] L. Beria's well-known reference on the" case of aviators "about Ptukhin says:" since 1935 he was a participant in an anti-Soviet military conspiracy, where he was recruited by Uborevich" (at the time of his arrest, Ptukhin had been dead for four years).[266] In the memoirs of Slyusarev's daughter, a completely strange phrase is found: "Before the war itself, when he was in the position of deputy. commander served in the Kiev district, drove up from the NKVD. The commander was arrested. They ask affectionately: "Where is Slyusarev?" - On the hunt. We waited a day or two and left. As his father later confessed to his mother, he stuttered out of fear for another three days. But then let him throw a stone at him, whoever is brave himself ... "[267] Chief of Staff of the Air Force of the Kiev Regional Military District, Major Ge

Aviation N.A. Laskin was recalled to Moscow and then arrested on July 12, 1941, while until June 26 operational documents were signed either by him or by the "acting" chief of staff, Colonel Taygrebert, and from July 11, Major General Shkurin took

over as chief of staff of the Front Air Force. 268] It is hardly necessary to prove that all this by no means contributed to the well-coordinated work of the command and staff of the Air Force of the Southwestern Front in the first, most difficult, days of the war.

3.2. “June 22, exactly at 4 o’clock, we were awakened…”

Yes, the folk words of this sad song were somewhat different: “June 22; exactly at 4 o'clock, Kyiv was bombed and we were told that the war had begun. But the Germans had no way to bomb Kyiv at 4 o'clock in the morning - more than 430 km from the capital of Ukraine to the nearest point of the western border. For the Heinkel Non-111, this is an hour and a half of flight at cruising speed, and flying over the border before the start of shelling and the onset of ground forces would be unacceptable for reasons of ensuring the surprise of the invasion. In fact, German bombers appeared over Kiev at 7.15, that is, three hours after the actual start of hostilities on the border.

What happened at exactly 4 o'clock? This question is answered by the operational report of the headquarters of the 36th IAD (it was this division that was supposed to provide the air defense of Kyiv) dated 23.00 June 22, 1941:

“At 04.00 on 22.6.41, units of the 36th IAD of Air Defense took up a combat position on alert with deployment at permanent airfields.

At 07.15 a raid of 19 Xe-111 enemy aircraft was carried out in the direction of Brovary, Kyiv airport. From a height of H = 2000, 90 fragmentation and high-explosive bombs of 50-100 kg caliber were dropped. The 4th squadron of the 43rd IAP pursued the enemy in the area of extermination, but could not catch up. The enemy left on course 245. In the period

from 7.15 to 23.00, the enemy showed active activity, flights of reconnaissance were organized in the Zhytomyr, Vinnitsa, Korosten, Ovruch regions. 40 cases of the appearance of enemy aircraft in single groups of 3-5 aircraft in the indicated areas were noted. The enemy did not bombard and shell objects ...

Losses: as a result of the bombing of the Kyiv airport at 7.15, 32 people were killed, 34 were injured, 3 from the construction workers and collective farmers of the village of Zhuliany were shell-shocked. Our losses: one I-16 aircraft crashed on takeoff, the pilot died; one I-16 of the 43rd IAP, chasing the enemy who bombed Kyiv at 7.15, did not calculate the fuel and was forced to land, the plane is to be repaired. There are no downed enemy planes.

Chief of Staff of the 36th IAD, Colonel Orlov."[269]

The 36th IAD included two "old" professional air regiments (2nd and 43rd IAD), which in early June 1941 were armed with 111 I-16 and I-153 fighters (including 13 faulty). Two more fighter regiments (254th and 255th) were in the process of formation. The division was based at the airfields of the Kiev air hub (Borodyanka, Vasilkov, Brusilov, Olyianka, Brovary, Gogolev), located both on the western and eastern banks of the Dnieper, approximately within a radius of 30–45 km from the city center. Brovary, which became the object of the first raid by Luftwaffe bombers, is located on the east coast, i.e. the Germans had to cross the entire "extermination zone" twice, and, judging by the calculation of time, they were about 5-10 minutes directly in the area where Soviet fighters were based, and at a low altitude. Alas, "the enemy left on the course of 245", and left with complete impunity. Moreover, the resulting turmoil led to the crash of the I-16 fighter and the death of the pilot. The number of enemy aircraft indicated in the Opersvodka of the headquarters of the 35th IAD is most likely

overestimated by 2-3 times. The Germans would not have driven 19 Heinkels for the sake of delivering 90 bombs

of 50 kg caliber (theoretically, 32 such bombs could have been placed in the bomb bays of one He-111, but when flying at a distance of more than 1 thousand km, they could load even less). Noteworthy is the obvious discrepancy between the Opersvodka and the statement of Comrade Molotov, who, speaking on the radio at noon on June 22, for some reason called Zhitomir the first in the list of Soviet cities bombed from German aircraft.

To complete the picture, it is also worth noting that the 36th IAD was by no means the only element of the air defense system of the capital of Ukraine. There was also the 3rd Air Defense Division, which consisted of two anti-aircraft artillery regiments, which included 10 divisions (120 guns) of medium (76 mm and 85 mm) anti-aircraft guns and 2 divisions (24 guns) of small-caliber ZA. If you believe what D. Khazanov writes, "the troops of the 3rd Air Defense Division managed to carry out a number of important measures to bring the units on combat readiness. At 0300 hours on June 22, the crews took up positions near the guns and machine guns, with the exception of the soldiers of several units who were in trai

firing in Ostra (60 km northeast of Kyiv). It is still dark (for June 22, this is earlier than "exactly at 4 o'clock." - M.S.) 12 batteries, which were part of the 183rd and 254th anti-aircraft artillery regiments, prepared for the appearance of enemy aircraft ... "[270]

Judging by the results of the first raid, they were poorly prepared. However, the sirens blared and anti-aircraft

guns fired: “Morning June 22, Sunday. At 4 o'clock in the morning, my wife Anya and I took a queue at the grocery store for sugar (they gave half a kilo each). The store was supposed to open at 7 o'clock in the morning ... I don't remember if we managed to buy sugar, because at about 7 o'clock, just before the opening of the store, a siren was heard and, according to the rules, people from the queue began to scatter home, cursing that it had not started on time " training alert”… I ran to the bazaar. When I entered the market square, I was surprised - the police dispersed the market, not embarrassed in their methods, with the butts of rifles they beat bottles of milk, glechiki (jugs) with sour cream and fermented baked milk, scattering vegetables spread on the ground with their feet ... And the sirens howled incessantly. Suddenly, anti-aircraft guns rang out, and I saw shell

explosions in the clear blue sky. One of the villagers, driven into the entrance, turning now to one person, then to another, asks: “What is it like, oh, my dashing?” I

myself, not knowing anything, answered her: "Don't worry,
the drill will soon end soon." Then

another village woman answered: - That shyaka is not educational, the tse is cherry. Axis mi Thali pogzdom through Post-Volinsky so there they threw bombs from the planes. I myself bachilau yak stinks vibrated (exploded), and nomiM on burdens (stretchers) they wore wounded chi.

What could I say? Still, hesitantly, I said: “I’m purposely

nidcmpoiAu, so the tri-voga bula is similar to a spravzhnya (real), but on the burden (they put the calls of healthy people at the nachebto (as if) it’s too early to stink ... ”[271] These lines from the

memoirs of a war veteran, a resident of Kiev F. Khudyakov, in my opinion, much more accurately than all Operational reports explain the reason why half a dozen Luftwaffe bombers bombed Kiev in broad daylight and left with impunity.

pre-war USSR at a glance. Peaceful creative work, as a result of which those who wish to buy a kilogram of sugar must together take a queue at 4 in the morning; remnants of capitalism in the minds of individual illiterate peasant women who believe their own eyes more than the black “plate” of a loudspeaker”; frightened, but from this even more active police and, finally, a conscious metropolitan Komsomol member who. firmly believes in the editorial of Pravda, but stores sugar with his wife just in case ...

Slightly violating the chronology of the presentation, we note that the Germans carried out a truly serious raid on Kyiv not three hours, but three days after the start of the war. On the morning of June 25, German bombers (Junkers Ju-88 from the KG-54 squadron and Heinkels He-111 from the KG-55) attacked the airfields of Brovary, Borispol, Gogolev (all on the eastern bank of the Dnieper). The Germans did not act at all like the Soviet DB-3 bombed Ploiesti (at night, from a height of 5 km, because of the clouds), but in the bright light of a summer morning, aiming, from a low-level flight. The result was the same:

“From 6.45 to 10.20 the enemy bombed the city of Kyiv and adjacent airfields. Xe-111 and Yu-88 aircraft took part in the raids, penetrating the city at altitudes from 2000 m to low level. The planes went to the city in two echelons of 20 and 15 planes with intervals between them of 15 minutes. The airfield, factories No. 43 and Bolshevik were bombed. Factory facilities were damaged. 9 bombers from a height of 100 m bombed Brovarts airport;; 9 planes burned down. 3 planes bombarded the Gostomel airfield; one SB was broken. Boryspil attacked by 11 planes; losses
No.

Three Ju-88s were destroyed by attacks by our fighters. The anti-aircraft artillery of the Kyiv point fired 2142 shells - no results. Our losses: two I-16s were shot down in a dogfight, five planes burned down, and 25 were damaged.”[272] In terms of taking into

account the losses of the enemy, this report of the headquarters of the Kiev air defense region is very accurate - the Germans recognized the irretrievable loss of two bombers, and another Junkere shot down over Kiev barely made it to Zamosc (Poland), where he made an emergency landing. The question of Soviet losses is not quite clear - for example, according to

According to a number of authors, several heavy four-engine TB-3 and TB-7 from the 14th TBAP of the 18th air division of the RBA were put out of action at the Gogolev and Borispol airfields.

The controlling authority - the "special department" (at that time called the "3rd Directorate of the NPO") - in special communication No. 35303 of June 26, 1941, gives a very harsh assessment of the state of Kiev's air defense:

“The 3rd air defense division is not prepared for defense. The received new 85-mm anti-aircraft guns were not mastered by the division. The personnel of the division were trained on 76-mm cannons, which are not enough from the 85-mm shells removed from service. The 36th Air Division instead of 240 aircraft (based on 60 aircraft in each of the four regiments of the division. - M.S.) has 90, of them only

8 aircraft are provided with walkie-talkies. Patrolling over the city is not organized. After reconnaissance and bombing, the enemy leaves with impunity, which negatively affects the mood of the population ... "[273] The fact that the 36th Fighter

Division was armed with relatively slow-moving I-16s (and this in the presence of two hundred "new types of fighters" in the Air Force Kiev OVO), can hardly be called the optimal solution - the high-speed and high-altitude MiG-3 would look much better as an air defense interceptor. On the other hand, exactly the same "donkeys" of the 67th IAP quite successfully shot down exactly the same German-Romanian "Heinkels" in the sky of Southern Bessarabia. Finally, if not in Kiev, there were plenty of “MiGs” in the Chernivtsi area - the 149th IAP was based there, which had 64 MiG-3s in service in early June. However, it was there that on June 22, 1941, the aviation of the Southwestern Front suffered one of the most severe defeats. There are still many unknowns in this story. Starting with the fact that in the documents reflecting the strength of the 64th IAD, there is a rare inconsistency.

The division had three "old" regiments (12th IAP in the Stanislav region, 149th IAP in the Chernivtsi region, 166th in the Kolomyia region) and two new ones being formed (246th and 247th IAP). Judging by the reports at the beginning of June, the division had 239 aircraft, including 24 out of order. Judging by the report of the third commander of the Air Force of the Southwestern Front, Astakhov, by the beginning of the war there were only 275 serviceable aircraft (not counting the obsolete I-15).

The difference arises mainly due to the 247th IAP, in which 48 I-153s “appear” instead of zero, and the 149th IAP, in which the number of “old-type fighters” increases from 46 to 62. [274] Pilots—

in early June there were 167, of which only 115 were trained for combat operations, but by June 22 there were much more pilots (239), but at the same time the number of combat-ready ones turned out to be even slightly less - 112. What did 127 (239–112) pilots who could not fly on the border airfields, it is not clear; it would seem that for the training of young graduates of flight schools (if we are talking about them, and not about another attempt to retroactively find the “objective” reasons for the defeat), it was possible to find other places and air units ...

In any case, one thing is clear - there was a lot of everything. In addition to order and military discipline.

In the special message of the 3rd Directorate of the NPO No. 36137 dated July 1, 1941, we read: “Despite the signals about the real possibility of an enemy attack, individual commanders of the units of the Southwestern Front were unable to quickly repel the enemy attack. In the mountains Chernivtsi June 21 this year the flight crew was released to the city, as a result of which the fighter planes were not raised to repel the enemy attack. (238) Chernivtsi is located 30 km from the border. If the “specialists” were not mistaken, then it turns out that fighter pilots from the border airfield were sent home at the very time when it was on the site of the Kiev OVO that two German defectors crossed the border river Bug, wanting to warn the “homeland of the proletarians of the whole world” about the impending war . However, even without any special reminders from the defectors, at a military airfield 30 km from the border, round-the-clock duty was to be organized, VNOS posts were set up, an on-duty link ready for immediate action was prepared, and much, much more, which was directly indicated in the instructions , instructions and directives.

The attack on the Chernivtsi airfield was not carried out by bombers of the 5th Air Corps of the Luftwaffe from the territory of Poland, but by the Heinkels He-111 from the KG-27 deployed in the southeast of Romania. The bombers took off from the Focsani airfield before dawn, at 0250 hours. On June 22, at low altitude, they covered a distance of about 300 km over the territory of Romania, crossed the border and at about 4.10 in the morning dropped a bomb load on "peacefully

sleeping” (and if you believe the special report of the “specialists”, then deserted) the airfield based on the 149th IAP. According to foreign authors, two air groups (1 and II) of the KG-27 squadron took part in the massive raid. German pilots who survived the war, participants in this event, recall: O.

Skroblin, 3rd staffel (squadron) of the 1st group of the

squadron: “We saw the Chernivtsi airfield in the foggy morning light. We were presented with a picture of long rows of aircraft lined up as if on parade. It was what we were always looking for in England. The fuss was visible, they were already working on the planes. However, for the Russians, this was a surprise. We were not met with anti-aircraft fi

W. Moller, 1st staffel of the 1st group of

the squadron: “My squadron returned from the mission smoothly, without losses. The fight was very successful. It was so sudden for the Russians that only 2 or 3 out of about 100 fighters were able to

take off at the airfield in Chernivtsi ... ”It is difficult to understand how such a large detachment of forces allocated to strike at the airfield located on the passive sector of the front is explained; maybe the Germans were worried about the MiGs of the 149th IAP, and they tried to get rid of the dangerous enemy in the very first hours of the war. Be that as it may, despite the escort, absence of a Heinkel fighter, the low-speed ones, having bombed the airfield, returned safely to the base. The only loss was the Non-111, which was fired upon by anti-aircraft guns while flying over the border and made an emergency landing on Romanian territory; the pilot was wounded, the aircraft was damaged by 30%, which according to the German accounting system meant: "requires significant repairs carried out by air units. " number of fighters, went on a second bombing raid, attacking the airfields of the 64th IAD in the Khotyn and Kamenetz-Podolsky regions. It was announced about the destruction of 5 Soviet aircraft on the ground. On this, the actions of the 4th Luftwaffe air corps on objects in the “northern neighbor” strip ended until the evening

of June 22, but Soviet reports paint a much more dramatic picture. At 15.17 on June 22, the commander of the 64th IAD, Colonel A.P. Osadchy sends from Stanislav to the address

commander of the Air Force of the Kyiv district (as in the text - "district", not the front) a telegram with the following content: "50 bombers [of the enemy] Chernivtsi are heavily bombarded. Landing is expected. Please

help urgently. We don't have enough funds." In the evening, another telegram arrived at the front headquarters; who reports to whom is not clear; on a form with a peeling yellowed ribbon there is an inscription: “Stanislav. 22.6. Conveyed by Captain Poluchny. Text of the

message: “At 13.00, the enemy bombed Chernivtsi station, bridges across the river. Prut, points Sadogur, Altuzuchka, [inaudible]. Enemy aircraft meet no resistance in the air, they bomb at low level flight (emphasis added by me. - M.S.). During the day Stanislav the enemy bombed seven times. Anti-aircraft artillery shot down 3 aircraft in the Stanislav

area. At 21:00, the enemy bombed the concentration area of 15 TD Zablotov (50 km northwest of Chernivtsi), one tank caught fire. These losses are being specified.

I have not yet been able to clarify the loss of aircraft. The command of the KG-27 squadron reported 102 enemy aircraft destroyed at the Chernivtsi airfield (i.e., the almost complete destruction of all, including fifty "old-type fighters", aircraft of the 149th IAP), and even 6 aircraft shot down in the air (six out of "only 2 or 3 were able to start").

Operational report No. 01 of the headquarters of the 17th Rifle Corps (the headquarters of the corps was located in the city of Chernivtsi) dated 17.00 on June 22 states that “enemy aircraft bombed the airfield four times, Chernivtsi, Sadogora. As a result of a sudden raid, 45 aircraft were destroyed, of which 9 were from the corps squadron and 36 from the 149th fighter regiment. (240) Compiled on the morning of the next day (7.00 June 23) The operational report of the headquarters of the 12th army calls more modest figures for the losses of the 149th IAP - 15 aircraft lost on the ground, 2 shot down in the air. Allegedly, eight (!) enemy planes were shot down.[276] Later historians even composed extremely colorful descriptions of these failed air battles over Chernivtsi: